
THE HARMONY OF SOUNDS.
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THE

HARMONY OF SOUNDS;

BY

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In the compilation of the following Treatise, the Author has endeavoured to render each Chapter complete in itself, and exhaustive of the subject; and, where this has been incompatible with the preservation of an easy, and a continuous, course of study, to aid the progress of the reader as much as possible by copious references to paragraphs in which are given full explanations of the terms used.

Manchester, Christmas, 1871.

THE HARMONY OF SOUNDS.

CHAPTER I.—SOUND.

1. The sensation of sound is the result of a disturbance of the atmosphere of such a kind as to affect the brain through the agitation of the auditory nerve. Particles of air, being violently displaced by some shock, impart a motion similar to their own to adjacent particles; and thus, by the vibration of all the intermediate column of air, a chain of connection is formed between the point of original disturbance and the ear of the listener. The air first displaced, having communicated its motion, is repelled by the greater density its sudden advance produced; and, if there be no repetition of the impulse, gradually falls into a state of rest. The entire body of air between the disturbing influence and the utmost limit to which the motion (constantly resisted, and weakened by the natural quiescence which it

upsets) can reach is, thus, divided into lengths, or waves; each wave including a point of greatest density, or pressure—where the urged-on particles have not yet overcome the resistance of those to which the forward movement is scarcely communicated—and a point of greatest rarity, or thinness of air; where the particles shrinking (some onward, and some backward) from an extreme pressure, leave a comparative vacuity. When the shock is given only once, so that merely a single series of waves is produced, the effect upon the ear is that of a sudden noise, or report; of a loudness proportionate to the force of the original impulse, and to the shortness of the chain of vibrations which serves to carry it.

2. To originate a musical sound it is necessary that, by the persistent, and equable vibration of the disturbing influence, a succession of waves should repeat the first impression upon the auditory nerve with exact regularity; and with such rapidity that the drum of the ear, not recovering from one shock before another is given, receives the different impulses as one continued agitation.

(In like manner, when a bright light-point is slowly moved the eye easily measures the time of its passage from one place to another; but when it is whirled through the air with extreme rapidity the effect of a band, or line, of light is produced.)

3. When sound-waves follow one another with regularity, the particles of air, recoiling from the points of greatest density in the first course, are immediately forced onward again by the rush of the second series; and thus the to and fro movements of each wave are governed by the length of time the particles are suffered to proceed in any one direction, without receiving an opposing influence. The length of the sound-waves,—*i.e.*, the distance from one extreme density of air-particles to the next—and the height, or depth, of pitch (technically, the sharpness, or flatness) of a sound are always in proportion to the rate at which the impulses, or vibrations, follow each other. A rapid succession of vibrations produces short waves, and acute, or shrill, sounds. Musical instruments are so constructed that, by the enclosure of a column of air in a tube, the length of the first sound-wave (and, consequently, of all the waves) may be regulated; or, by the vibration of a string, or spring, or membrane, or metallic plate (the motion of which is always in proportion to the length, weight, and tension), the rapidity of the successive impulses may be controlled.

(As the resistance of the air within the length of a large sound-wave cannot be at once overcome, minute to and fro movements

of adjacent particles are caused by the struggle between opposing influences; and very faint sounds—called "Harmonics,"—are thereby produced, in addition to the louder, and deeper, note enunciated by the larger, and more decided, swing of the principal wave. The little undulations, or ripples, are always in some aliquot proportion of the length of the great wave enclosing them.)

4. The length of the waves of any sound may be ascertained by dividing the rate at which all sounds travel in a given time by the number of vibrations required in the same interval to produce that particular sound. The lowest musical note generally used is caused by about sixteen vibrations, or series of sound-waves, in a second. When the atmosphere is in such a state as to carry sound at the rate of 1,120 feet in a second, each wave conveying the note measures seventy feet. The effect produced is, however,—owing to the slowness of the vibrations, and the consequent length of the sound-waves,—little better than a low, deep, growling murmur, of extremely vague pitch.

(The rate at which sound travels depends on the medium by (or rather, through) which it is caused. Through warm air the vibrations are conveyed more rapidly than through cold. Water carries the vibrations with rather more than four times the rapidity of air. The conducting powers of woods and metals are very various; but they are, in most cases, vastly greater than those of, even, heated liquids.)

5. When sound-waves strike against a body capable of reflecting them powerfully they rebound; and, forming retrogressive waves of the same length as those of the advancing current, (but of diminished force,) produce an echoing sound of less vigour than, but of like pitch with, the original note. When the sound is long-sustained, so that both series of waves have time to combine their effects, or when (with a shorter note) the distance between the point of original, and that of reflected, disturbance is small, and both currents strike the ear so closely together that the want of absolute simultaneousness cannot be detected, the echo serves to increase the sonority of the note first enunciated. But if the reflected sound, in consequence of the distance of its point of departure, reaches the ear only when the length of the waves in the onward series has been altered, and the pitch has, thereby, been raised, or lowered, the listener receives together two sounds of different degrees of acuteness.

6. Thus, the air will transmit either a rapidly altering succession of waves, giving a series of notes varying in pitch—technically a *melody*;—or, at the same time, several currents of waves, which, being of equal length

and rapidity, combine to produce one strong unison; or, simultaneously, many series of waves of different lengths, affording combined sounds of different degrees of acuteness—or *harmony*.

7. The effect of an harmonious combination, or a melodic progression, depends upon the simplicity, or complexity, of the ratios of the different notes. When the waves of combined sounds attain together their greatest densities —and, consequently, their utmost force—so rarely that the ear is able to detect an intermittent throb, or break, in the equality of the sound, caused by the occasional coincidences of strength, the notes are said to be *dissonant*, or *discordant*. But sounds caused by vibrations of which such a large proportion agree that the ear cannot count, or follow, the frequent increase of force, or perceive any beat or pulsation, marring the smooth continuity of tone are said to be *consonant*, or *concordant*, with each other.

Chapter II.—Consonance.

8. Discordant combinations are frequently used in music: but the feeling excited by them is one of unrest; or of a state of transition, that causes the ear to yearn for a more satisfactory relationship of the sounds. Even in a melodic progression, or succession of single notes of different pitch, the effect of agreement, or consonance, is very pleasing.

9. Sounds of different pitch, but more or less consonant with each other, are produced by vibrations in the ratios
1 to 2, 3, 4, 5, or any doubles of these numbers;
2 to 3, 4, 5, or any doubles of these numbers;
3 to 4, 5, 6, or any doubles of these numbers;
4 to 5, 6, 8, or any doubles of these numbers;
5 to 6, 8, 10, or any doubles of these numbers:
the length of the air-waves being in inverse proportion to the number of vibrations: *i.e.*, if the higher of two sounds is derived from three vibrations to every single vibration of the lower note its waves must be one-third the length of those of the graver sound. The degrees of consonance are various as the

coincidences of greatest force of the waves. The agreement of the unison, or one note, produced by waves of precisely the same length, is almost equalled by that of an octave; the higher sound having waves only half the length of those of the lower. So thoroughly consonant is this combination that it may be regarded as little more than a strengthening of one sound: the shorter waves confirming, and intensifying, those of the lower note; and giving more than double force and keenness to their sound. A man and a woman, attempting to sing the same series of sounds, naturally give the melody in octaves, instead of unisons; the effect of the higher voice being, merely, to impart to the tune a brilliancy, and pungency, which the lower, and more sombre, register lacks.

10. Two notes an octave apart are not only perfectly consonant with each other—their waves flowing on tranquilly—but the interval between them includes all the less complete consonances. Thus the inversion (*i.e.*, the interval necessary to complete an octave) of a perfect fifth—the higher sound of which makes three vibrations to every two of the lower—is a perfect fourth,—a consonance of almost the same character;—the upper sound

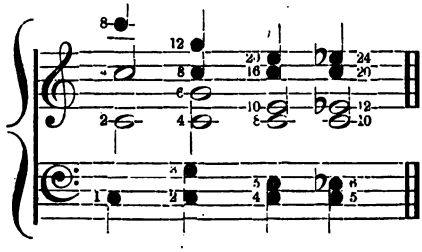
making four vibrations to every three of the lower :—and the inversions of major ($\frac{5}{4}$) and minor ($\frac{6}{5}$) thirds are minor ($\frac{8}{5}$) and major ($\frac{5}{3}$) sixths. So that a note is consonant with all the octaves of any sound with which it agrees.

11. The table of consonant vibrations given in par. 9 may, therefore, be thus reduced; and still retain its essential characteristics

1 to 2, 3, 4, and 5,

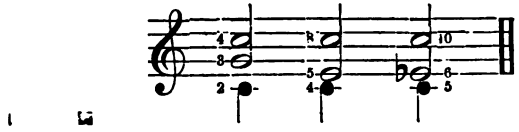
or

1 to 2, 2 to 3, 3 to 4, 4 to 5, 5 to 6: all the other ratios being, merely, such as afford octaves of these. The intervals produced by sounds thus related are an octave, a perfect fifth, a major and a minor third, with all their octaves :

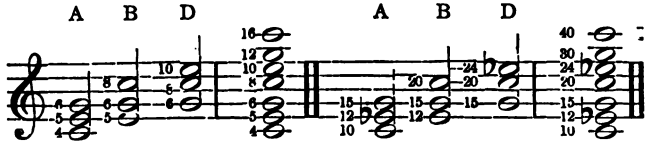


(The figures show the relative vibrations of the different sounds in the same time.)

including (as the inversion of the fifth) a perfect fourth; and (as the inversions of the thirds) minor and major sixths.



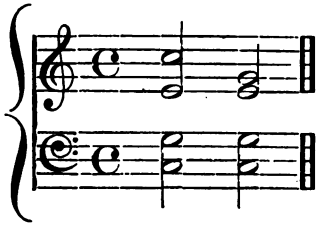
12. The consonances may, thus, be included in one threefold combination, termed a "common chord," or "triad."



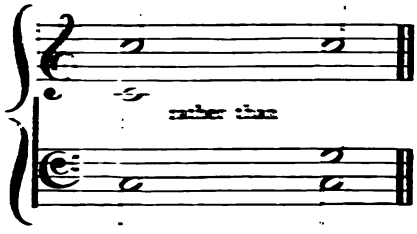
13. A triad produces the most satisfactory effect when, as in the chords marked A in the last example, the governing (18) consonance of the fifth—the simplest combination of essentially different sounds (9)—is formed by the large, sonorous, waves of the bass-note and one of the higher parts. The lower sound of the fifth is, therefore, in all forms of a triad called the "root" of the combination.

That arrangement of the consonances which has the third from the root in the lowest part —as the chords marked B have—is called the "first inversion." The "second inversion" has—like the triads marked D—the fifth from the root in the lowest part: the principal consonance being thus turned upside-down.

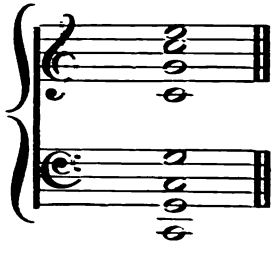
14. A triad consisting—as its name implies —of only three essentially different sounds some notes must, when four, or more, sounds are used together, be doubled in the unison, or—more effectively (9)—in the octave. The root of a chord is, so far as the effect of that one combination is concerned, the best sound to double: although the duplication of the fifth from the root is almost equally satisfactory.



15. In every chord the third is an important sound: the very imperfection of its consonance with the root affording a richness, and fulness, in comparison with which the greater agreement of the fifth sounds so thin and poor that modern writers generally prefer, when the third cannot be included in the harmony, to omit the better consonance; and to have the boldness of effect caused by the strengthening of one note in several octaves; rather than the vagueness resulting from the mere combination of a root and its fifth.

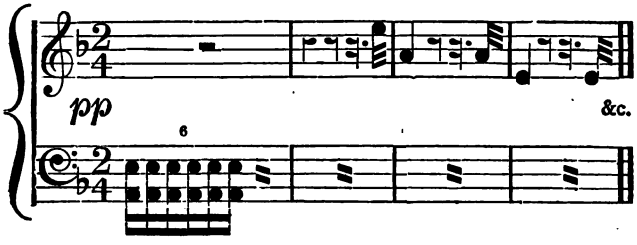


On the other hand, so rich is the effect of the third that, except in a great number of parts, it does not require to be doubled, either in the unison, or the octave. (24, 40) One third imparts sufficient warmth, and character, to the harmony to balance the repetition, in several octaves, of the root and fifth.



In orchestral compositions, when all the sounds of a triad are given in several octaves, a proper balance may be obtained by assigning the root and fifth to the more powerful instruments. A certain dreamy, mysterious, effect results from the omission of the third; as, for example, in the opening of Beethoven's 9th

Symphony, Op. 125, where only the root and fifth are employed for the first sixteen bars.



16. The harmony is, generally, most effective when adjoining parts are separated by, as nearly as possible, equal intervals. When this cannot be managed the lower parts, with their strong, full waves, should be divided by rather larger intervals than those between the upper, and less resonant, sounds.

But if the object of the author is to make a melody stand out with great distinctness from the subordinate harmony (rather than to produce well-blended, and equally-balanced chords,) it may be attained by massing the less important parts together, and separating them by a wide interval from the theme, or subject, for which greater prominence is desired.

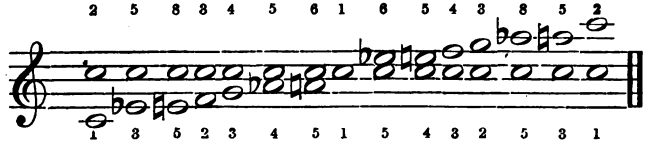
Chapter III.—Key Relationship.—Scales.

17. Although a single—and, especially, a major—triad is, in its natural position (with the root sound in the bass) a thoroughly satisfactory combination, the feeling of rest which its consonant vibrations produce is, in a succession of chords, slightly disturbed; because the ear, having measured, as it were, the waves of the root sound of the first triad, regards them as a gauge of the vibrations of all other sounds; and receives the note which they enunciate—or, under peculiar circumstances, some note to which they are near akin—as the underlying sound, or key note, to which all other sounds—whether used with it, or alternately—must bear relationship, either consonant, or seeking consonance. (8)

Even in a succession of single sounds the ear selects one principal note as a bond of union; and by it tests the ratios of the vibrations, or the perfect attuning of the other constituents of the melody. A note may,

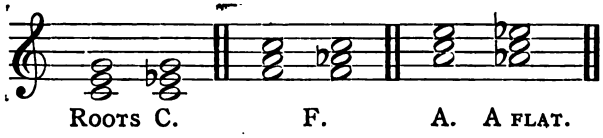
therefore, be not only the root of a triad, but the "tonic," or principal tone, of a number of chords, or consecutive sounds; which, collectively, bear a closer relationship to it than to any other sound.

18. Selecting C as a central, or key, sound we have the following consonances, affording a series, or *scale*, of notes nearly allied to the tonic, or fixed sound, round which they hover.



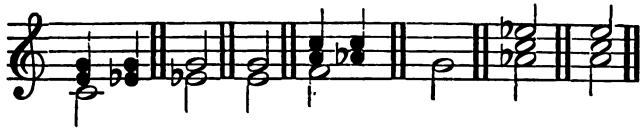
A melody containing these sounds distinctly points to C, as the only note with which they are all consonant. G and F do not agree with each other. They are imperfectly consonant with several other sounds in the above series, but entirely so with C alone: and afford the most conclusive gauge of its perfect attunement. They are, therefore, termed the governing sounds—technically, the "Dominant," (G) and the "Sub-dominant," or under-dominant (F) of its scale; and form, with the tonic, the "Fundamental basses," or roots of principal chords, in the key.

19. With these consonances of the tonic various triads may be formed:



all intimately connected with the key of C.

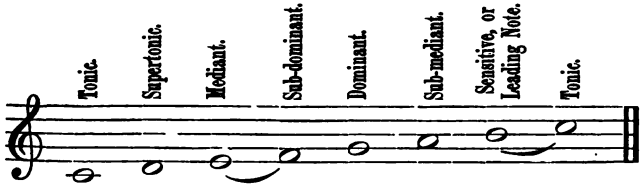
20. This scale of sounds is, however, manifestly imperfect for melodic requirements, because of the irregularity of the intervals separating the various notes; and for a full series of harmonious combinations, inasmuch as, although the principle of consonant chords is suggested, only one note—the tonic itself—has its complete system of surrounding consonances; and, while some of the sounds distantly related to C (as A and A flat) find their entire triads among its consonants, the note in closest connection with it—viz., G—is left, comparatively, without harmonious clothing, or accompaniment.



21. Some of the sounds which serve to form the triads of G—the primary, and best,

consonance above the tonic—are useful to complete the chords upon other consonances of C; viz., E, and E flat; and stand in recognisable, though not consonant, relationship to C itself.

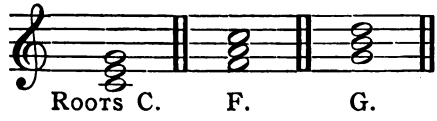
22. These sounds complete what are termed the "diatonic scales," major and minor, of C. The most satisfactory form—or the "major mode"—of a diatonic scale is a series of sounds lying between the tonic and its octave, or duplicate sound; (9, 10) and separated—as the name of the scale implies—for the most part, by the interval called a "tone:" (28) the exceptional semitones lying between



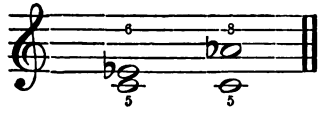
sounds too important to be omitted.

The complete major triads of the two best consonances of the tonic are included in the above scale; and, with the triad of the key

note itself, are called the "Fundamental chords" of the key.



23. There are various forms of a diatonic scale known as its "minor modes." The consonance $\frac{6}{3}$ is, generally, used instead of the more satisfactory $\frac{6}{5}$; and, frequently, the consonance $\frac{8}{3}$, in lieu of $\frac{8}{5}$. The minor thirds, and sixths, from the tonic, thus introduced,



are consonant with each other: consequently, a succession of chords in which they are used is more agreeable (8) than one in which the minor third of the scale is followed by the major sixth, or the major third by the minor sixth. When, therefore, a minor triad is used upon the tonic root the subdominant chord is, generally, made minor also.

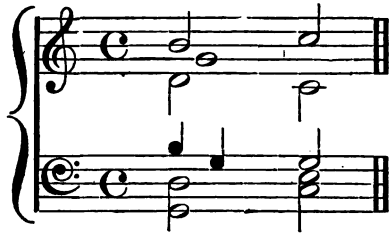
24. The major sixth of the scale is, however, frequently used in an ascending passage. When two mutually discordant notes are com-

bined the ear, yearning for the "resolution" (72) of the dissonance, eagerly prompts the raising, or lowering, of one of the sounds; so as to bring it towards a more satisfactory relationship with the other. Thus it is difficult for a singer—with a keen appreciation of the connection of sounds—to maintain the exact pitch of any note nearly, but not quite, in accordance with any other sound heard simultaneously. A smaller difficulty of the same kind is, sometimes, felt in attempting to pass from a strongly-enunciated, or well-defined, sound to another note close to one of its principal consonances. The more complete the consonance towards which a dissonance seems to point the more powerful is the attraction to repose. It is easier to approximate to the consonance of a third, without being absolutely drawn to it, than to that of a fourth, or fifth; and these, again, are far less absorbing than the more intimate agreement of the octave, or unison. Now the reliance of a sensitive ear upon the tonic is so firm as to lead to an easy appreciation of the true pitch of its consonances, and to vastly increase the desire for their exact attuning. When, therefore, sounds not consonant with the tonic are used in connection with it

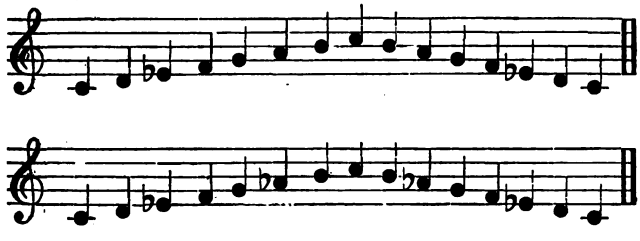
considerable care is requisite to avoid an involuntary departure from the true pitch of the weaker, and less important notes. Thus, when the seventh of the scale is combined with the key note it is often, unintentionally, made considerably too sharp; and, when it immediately precedes the tonic, the ear seems to require the seventh to be as near to the sound which follows it as is at all consistent with its relationship to the root upon which it is employed. In every mode, or form, of the scale, therefore, the triad upon the fifth is usually made major when it is followed by the chord of the tonic.

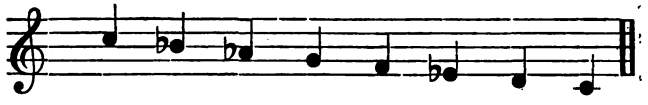
A minor triad upon the fifth has the effect of slightly disturbing the key, rather than of fixing it; whereas a major triad upon that root is, essentially, a "dominant," or governing, chord. Its third (the seventh of the diatonic scale) has so decided a tendency to lead to the key note, and is so strikingly prominent a sound in the chord, that it is called the "leading note," or "sensitive note;" and should not, when clearness of part-writing, and well-balanced progressions, are desired, be doubled: or, if the great number of parts necessitates a transient duplication of the leading note, as the only way of avoiding objectionable con-

secutions, (41) one of the parts having the third at the commencement of the dominant chord should, before the root of the harmony is changed, move to another note.



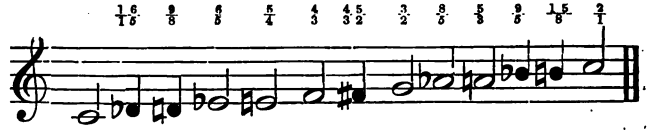
25. The seventh of an ascending scale being, thus, never more than a semitone below the eighth, the sixth of the scale is often made major in order to preserve the diatonic character of the interval separating the two sounds; and, especially in vocal music, because of the difficulty with which singers appreciate the precise pitch of the major seventh when following the minor sixth; a difficulty caused by the incongruity of the two sounds. (88)





The minor modes of any key are so similar to what is called the "relative major"—*i.e.*, the major scale having its tonic a minor third higher—that a transition from one key to the other is easily effected. For a major mode and its relative minor the same signature is, as a matter of convenience, generally adopted: the frequent major sevenths of the ascending minor scale, and of its dominant triad, requiring accidentals.

26. A still more enlarged series of sounds distantly connected with a tonic is called the "chromatic" (coloured, or tempered) scale.



In accordance with the general custom of musical authors the sounds discordant with the tonic of the scale are called by different names from the notes upon which they "resolve." (72) Thus, in the true chromatic scale of C, all the gradations of pitch between

the key note and the first higher sound consonant with it (E flat) are regarded as modifications, or temperings, of an intermediate discordant sound: and, as F is, although consonant with C, not so thoroughly so as is G, and is not a part of the triad of C, the chromatic sound between F and G is written as a sharpened fourth, rather than as a flattened fifth, of the scale.

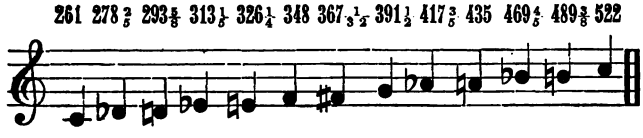
This is to be regarded, simply, as a matter of custom; to be adhered to in order to avoid confusion: there being no connection whatever between any two sounds a chromatic (28) semitone apart: but the names (which are of little consequence) of the diatonic sounds having long been fixed, the intermediate gradations of pitch are distinguished by the titles of the discordant, rather than the concordant, relations of the root.

27. But the chromatic scale—of which all the notes stand in some relation to the tonic—does not include the whole of the sounds that may be used without absolutely destroying the dependence of the ear upon the key note. When the root and fifth of a triad are properly derived the less strict consonance of the third may be formed by a sound not positively related to the tonic. Thus, a note slightly

flatter than the minor third of the scale, and called a sharpened supertonic, (22) may be used as the third of a chord upon the major seventh: (40) and even the tonic and dominant lend their names to sounds a chromatic (28) semitone higher than their true pitch, forming thirds of triads on the major third and sixth of the scale. (38) And, upon properly related roots, any of the sounds of their true chromatic scales may be used as discords; (71) without reference to their position with regard to the key note: the effect being slightly to increase the disturbing influence of the remote triads; but not, necessarily, to change the key.

Chapter IV.—Temperament.

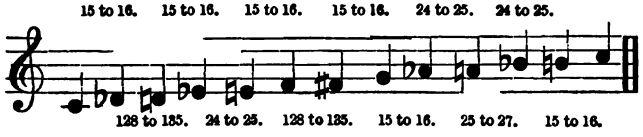
28. It is advisable to notice, in connection with chromatic scales, and the consonant triads which they afford in any key, the question of Temperament. Selecting the sound given by 261 vibrations in a second—a standard now very generally adopted—as the pitch of the note called "middle C;" and assigning to each note of its true chromatic scale its exact attunement,



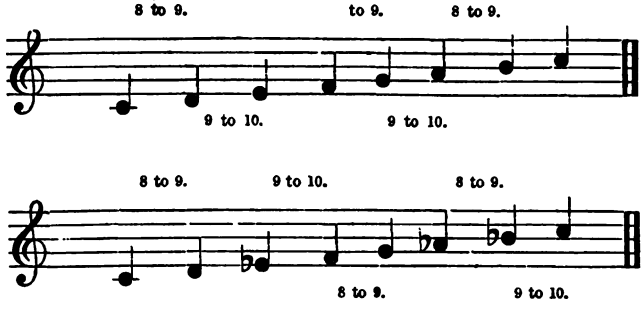
it will be evident that many of the intervals separating the sounds are, while apparently similar, really very unequal.

There are two entirely different intervals called *semitones*, and classified as *diatonic*, and *chromatic;* besides the exceptional semitones between the second and third, the sixth and

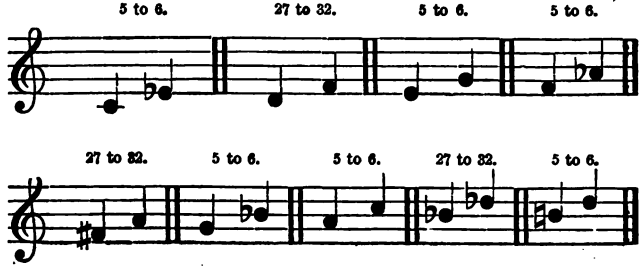
seventh, and the tenth and eleventh notes of the scale: the vibrations, in a given time, being as



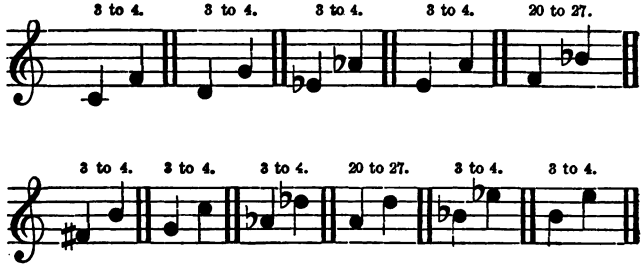
There are two kinds of "tones:"—major, and minor.



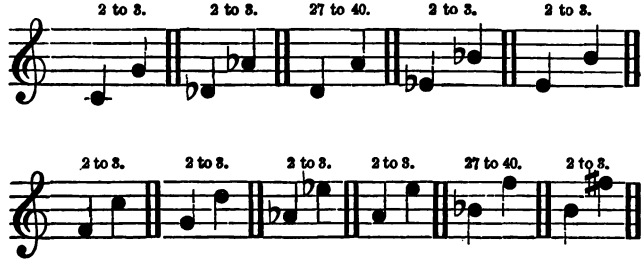
There are, also, two kinds of minor thirds;



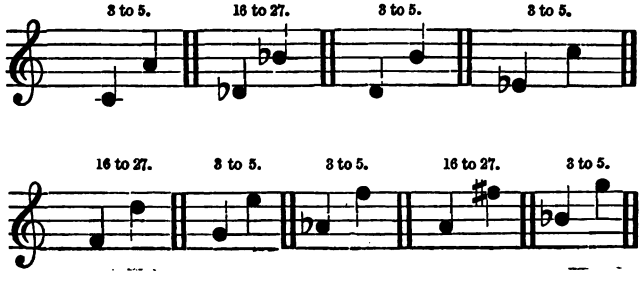
two kinds of fourths ; both *called* perfect ;



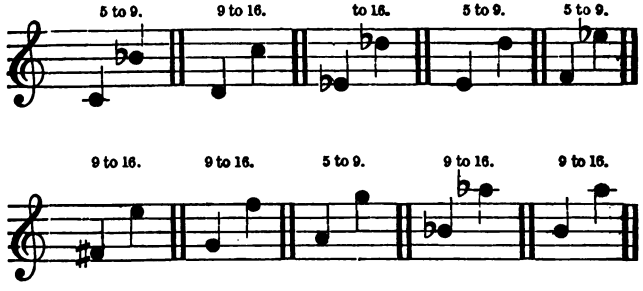
two kinds of " perfect " fifths ;



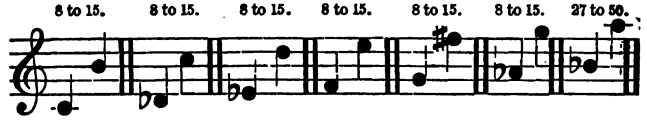
of major sixths ;



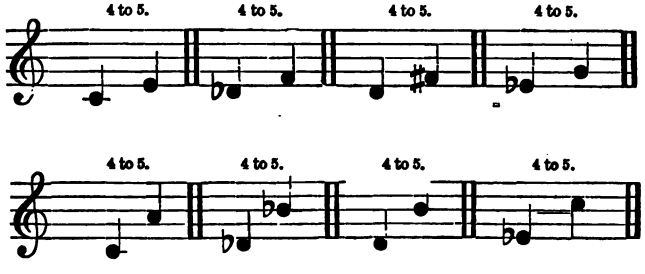
of minor sevenths;



and of major sevenths:

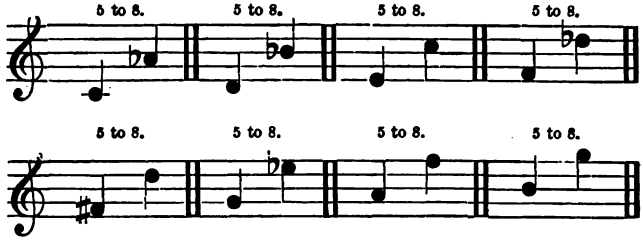


whereas the scale affords only one kind of major third;



and, consequently, only one kind of minor

sixth; of which the major third is the inversion.



29. Further, upon a keyed instrument having (for the convenience of the player, and for other reasons) only twelve sounds within an octave, every note has to serve in many capacities. Thus, the same note which stands as a true, and consonant, minor sixth above C, the tonic, a perfect fifth above D flat, a perfect fourth above E flat, a minor third above F, and as a diatonic semitone ($\frac{15}{16}$) above G, has, by enharmonic change, to form, as G sharp, the major third of a triad upon E, (E=326$\frac{1}{4}$, G♯=407$\frac{13}{16}$) for which it is much too sharp; and, in other keys, to serve as if truly related to their tonics, and roots of chords.

30. A singer, or a violinist, may be able nicely to adjust the true pitch of a sound with reference to the root upon which it is used: but, upon an instrument having only a set number of divisions of an octave this is impos-

sible. Fortunately, although the ear delights in consonance, it does not strongly object to such a trivial departure from exact measurement of sound-waves as will produce a slow undulation, or lagging behind, as it were, of one series of vibrations. Indeed, when this break in the absolute continuity, and perfection, of a consonance is extremely slight, the increased force of the entirely coincident vibrations imparts a kind of pungency to the combination which, sparingly used, is not without charm.

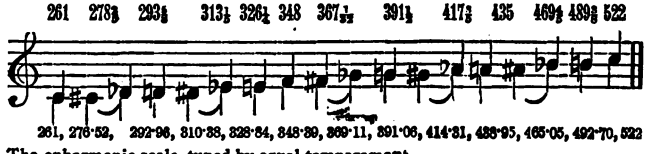
(Organ builders sometimes take advantage of this fact; and, tuning one set of pipes very slightly sharper than another, produce a combination which, by a slight waviness, or unsteadiness, of tone, somewhat resembles the sustained sounds of the human voice.)

31. But when the inaccuracy of attunement becomes painfully apparent, and the beats grow so rapid as to produce a positive, jarring, dissonance the dissatisfaction of the ear is in proportion to the closeness of the relationship of the nearest consonance. (24) An octave, springing from vibrations in the ratio of 2 to 1, is a consonance requiring great nicety of adjustment. Fifths, ($\frac{3}{2}$) and fourths, ($\frac{4}{3}$) are slightly more pliant; and are not, generally, felt to be painfully untrue if a very slow

throb marks the departure from absolute consonance. Thirds, and sixths, have still more remote ratios; and will bear considerable tempering.

In tuning a keyed instrument it is, therefore, necessary to sacrifice the exactness of the more remote ratios in order to secure the complete, or comparative, accuracy of the more important consonances. Various modes of accomplishing this have, at different times, been in vogue: but the plan known as "equal temperament" is now almost universally adopted: the fifths, minor thirds, and minor sixths being made very slightly too flat; the fourths, major thirds, and major sixths a little too sharp; and the octaves perfect.

The chromatic scale, tuned to C.



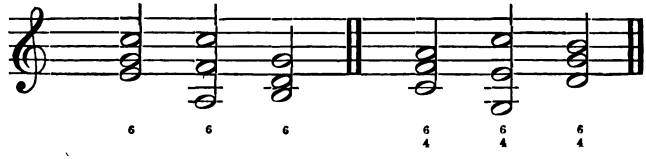
261, 276·52, 292·96, 310·38, 328·84, 348·89, 369·11, 391·06, 414·31, 438·95, 465·05, 492·70, 522

The enharmonic scale, tuned by equal temperament.

Chapter V.—Consonant Chords of the Key.

32. The most important sounds in any key (18) being those which form the best consonances with the tonic; and the principal, and most satisfactory, harmonies, those which complete the triads upon those consonant sounds, (22) the frequent use of the fundamental chords, (which include all the notes of the diatonic, or simple scales—major and minor,) by leaving undisturbed the hold of the ear upon the tonic, or underlying sound, affords a feeling of rest, and stability: and, when any change, or uncertainty, of key has been effected by the use of foreign, or the frequent employment of remote, chords, the influence of the original tonic may be strengthened, or restored, by the introduction of the fundamental triads; and especially by employing the subdominant, and dominant, chords; which are fundamental harmonies in one scale only; whereas the dominant and tonic, or the subdominant and tonic, are common to two keys.

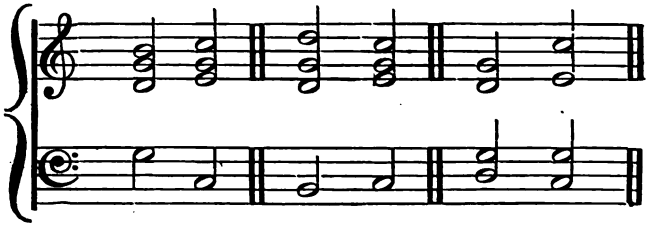
33. The inversions of these triads (12, 13) —although not quite so satisfactory as the natural forms, with the roots in the bass— may be employed, except at the close of a movement.



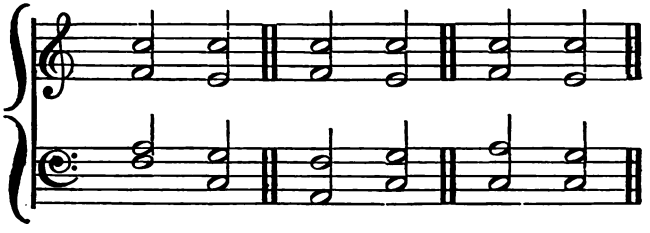
(Formerly it was customary for the authors of sacred music— instead of writing a proper organ part—to place under, or over, each bass-note which was not the root of the harmony figures, describing any sound used with it which did not form part of its common chord. Thus 6, or $\frac{6}{4}$, signified that the bass was the third, or fifth, of the triad. The figures $\frac{6}{5}$ $\frac{6}{4}$ $\frac{6}{4}$ $\frac{}{3}$ $\frac{}{2}$ meant that the first, second, or third inversion of a chord with a seventh from the root (86) must be used. Any sound derived from the root as a discord (71) was, generally, figured ; whatever its relation to the employed bass. Some writers, however, did not use any figure to describe the seventh from the root when the sound stood as a third to the bass-note. All accidentals, except those belonging to the octaves of the bass-note, were figured ; a sharp being denoted by a line being drawn through the figure—6; and a flat by placing the character before the figure—♭5. An accidental without a figure referred to the third from the bass. When, over a sustained bass, discords were followed by the common chord of the bass-note the figures $\frac{5}{3}$ denoted the consonances. This numerical shorthand, certainly, spared the author much trouble : but it has, very properly, fallen into disuse : composers finding it to their interest to write in full whatever they desire to have played. The figures render no aid to the student in deciphering the different inversions of obscure and complicated chords ; especially now that chromatic discords are so much more used than of old.)

34. The tonic triad—being the only chord which affords a complete feeling of repose—should always be used, in its most satisfactory form, at the conclusion of any piece of music. When the tonic chord is preceded by that of the dominant the progression is technically termed a "perfect cadence," or close. In a "plagal cadence" the subdominant chord is used in place of the harmony of the dominant.

PERFECT CADENCES.



PLAGAL CADENCES.

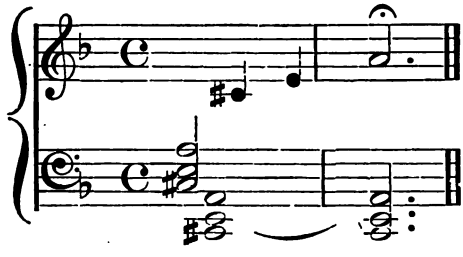


35. By the old church musicians the major triad of the tonic was often used to conclude a movement in a minor mode; or the third was altogether omitted. By the first plan a brighter, and more thoroughly consonant (13) effect was gained than by finishing with a

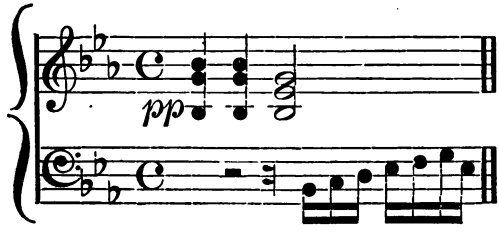
minor triad: and, by either, the disagreeable dissonance, or "false relation" (54) was avoided, which would, otherwise, in the large, and resonant, buildings in which the music was usually performed, have been caused by the mingling of the dying echoes of the minor third with the major third, which would be prominent among the harmonics (3) of the last bass-note.

36. Generally—though not necessarily (17) —the tonic, or the tonic triad is used at the commencement of any movement.

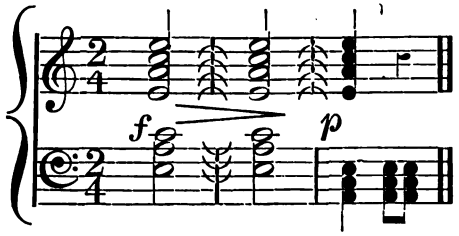
Beethoven's P. F. Sonata in D minor begins with the first inversion of the dominant triad.



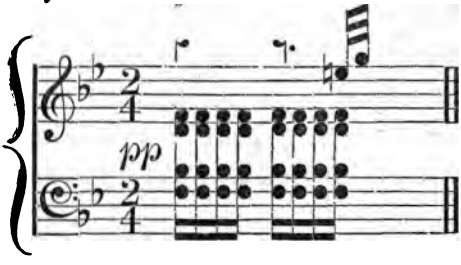
The Piano Sonata in E flat, Op. 27, No. 2,



the *Allegretto* of the 7th Symphony,



and the *Allegretto Scherzando* in the 8th Symphony

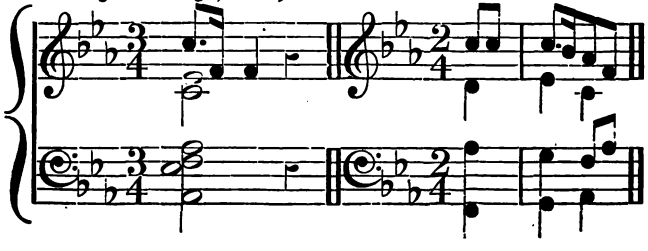


of the same author commence with the second inversion of the chord of the tonic of the movement.

Many of the works of Beethoven, and of later writers, open with discords. (71)

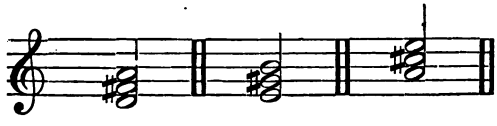
BEETHOVEN'S SONATA. No. 3 OF OP. 31, OR 29.

MENDELSSOHN'S "ANDANTE CON VARIAZIONI" OP. 82.



37. But, although the fundamental triads (22) are the most intimate in relation to the tonic of the key, and most powerful in determining the tonality, their constant use soon begets a feeling of satiety, and a desire for more variety in the harmony. No danger of disturbance of the key arises from the frequent alternation of fundamental and other diatonic chords:—*i.e.*, triads having all their sounds in the diatonic scale. In the major mode these secondary triads are minor upon the second, third, and sixth degrees of the scale. The first of the three agrees, also, with one form of the minor scale.

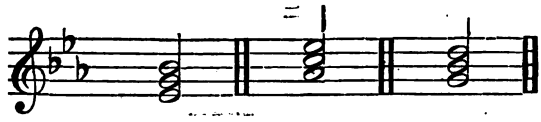
38. A slightly more disturbing influence is exercised when major triads upon the same roots are employed.



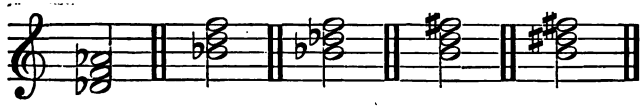
The augmented fourth of the scale is very distantly related to the tonic. (28) The sharpened fifth, and eighth, have still less

relation with the root of the scale: (31) but the connection of the triads in which they are used with the key is maintained by the importance of their root sounds. The major triad upon the sixth of the scale enjoys a closer relationship to the key than that upon the third, because two of its sounds—the root and fifth—are consonant with the tonic. But, while these three triads have a slight connection with the key of C, and one or other of them may, occasionally, be used amongst more clearly related chords, they are fundamental harmonies in the key of A; and, if used too frequently, or in immediate succession, destroy the hold of the ear upon C as a tonic, or rest-sound. The first, and third, are also, fundamental triads in the scale of D; and, if used consecutively, have a tendency to establish that sound as a new tonic.

39. The third, and sixth, degrees of the minor mode bear major triads which may be used effectively; but, because of their nearer relationship to other tonics, sparingly, except when a change of key (145) is desired. A still more disturbing influence results from the use of a triad upon the fifth of the scale having a minor third, instead of the "leading note." (24)



40. Upon the extreme limits of the key are the chords which may be taken upon any true chromatic sound, (26) except the augmented fourth above the tonic, providing one note of the triad belongs to the diatonic scale. The augmented fourth cannot, without a change of key, be used as a root, because of the remoteness of its connection with the tonic. A sound sharper than the supertonic, and named after it, may be employed as the major third upon the seventh.



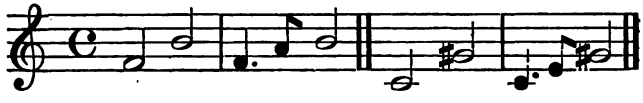
Of these extreme triads the most remote are those upon the seventh of the diatonic scale. For—while the chord upon the minor second has, for its third and fifth, two sounds consonant with the tonic; and even the minor chord upon the minor seventh, has, for its fifth, one of the best consonances of the tonic —of the chord upon the major seventh, the root is only dimly connected with the key

note; and the major third, and the fifth are sounds allowed only to fill up chords upon properly related roots. (135)

It will be noticed that the minor supertonic is the only true root which does not stand in the relation of dominant to some other root in the key. The third in its triad cannot, therefore, so long as the repose of the ear remains undisturbed, be a leading note. (24) For this reason, and because it is nearest in relation to the tonic of all the sounds of the triad, it is often doubled. (14) The first inversion of this triad was used before its derivation was understood; and was known as the chord of the "Neapolitan sixth." (33)

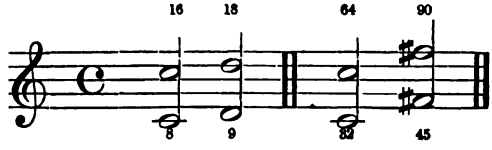
Chapter VI.—Consecutions.

41. Sounds discordant (71) with each other are, sometimes, felt to clash even when they are not used together, but only in immediate succession; or with such slight separation that the ear scarcely loses the vibrations of the one note before those of the other affect it.

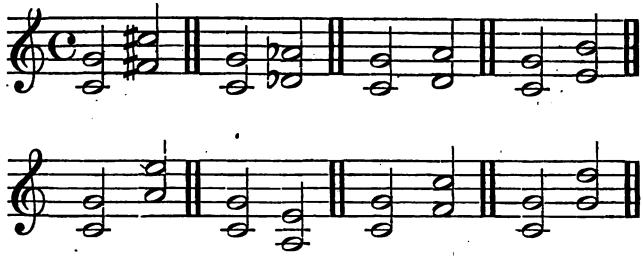


Such progressions should, generally, be avoided; except in music of a dramatic character, intended to depict a state of violent emotion. All augmented, or diminished, progressions (25) are especially objectionable in vocal music; because of the great difficulty singers have in exactly intoning a note having no relationship to the preceding sound, and separated from it by a wide interval.

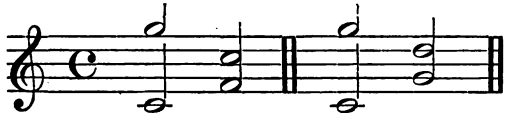
42. The discordancy of notes used in immediate succession is felt more strongly when one consonance follows another, and the sound-waves of the second combination form very remote ratios with those of the first. Omitting the octave, which is (10) little more than a duplication of the same sound—so that a consecution of octaves is scarcely more discordant than one of unisons—



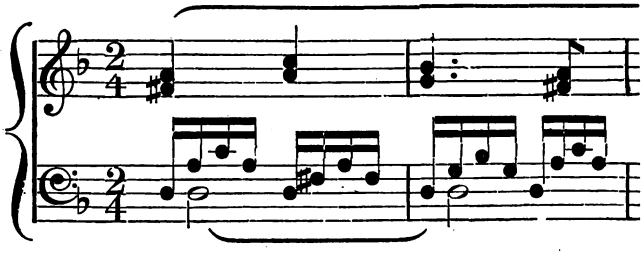
the disagreeable effect of consecutions is in proportion to the consonance of the combinations. Thus, a consecution of fifths clashes more than one of fourths; and far more than one of major thirds; and is most objectionable when both the sounds of the first consonance are discordant with both the sounds of the second. In the first bar of the following example the consecutive fifths are excessively harsh. In the succeeding bars the progressions become less, and less, repulsive;

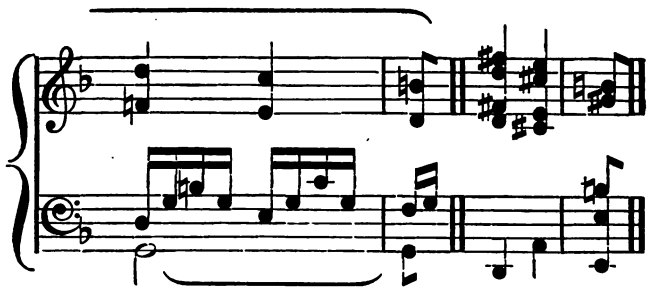


until, in the last two bars—the root of the one consonance being the fifth from the root of the other, and the only dissonance the mildest one, the diatonic (22) scale affords $\frac{8}{8}$, or $\frac{2}{4}$—the ear does not object to the progressions; which are, however, generally used in contrary motion of the parts.



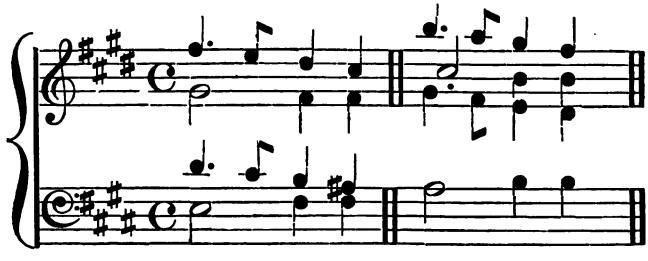
From Beethoven's "Pastoral" Symphony.





Upon an instrument like the pianoforte, having only imperfectly sustained sounds, progressions, otherwise disagreeable, are often unnoticed when the notes of the different parts are of various lengths. The consecution of fifths in the following example would, in vocal music, or upon an instrument capable of continuing with force the long notes, sound very crude, and harsh.

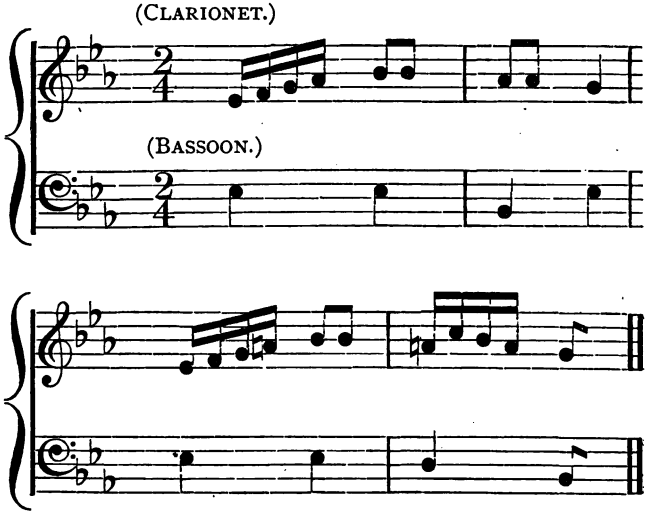
From Beethoven's P. F. Sonata, Op. 14, No. 1.



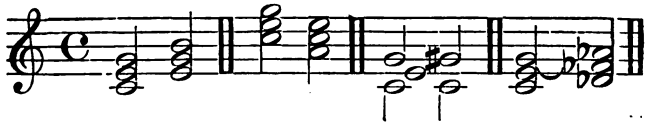
Consecutions of fifths, even upon following degrees of the scale have, occasionally, and

prominently, been used *for the sake* of the discordancy.

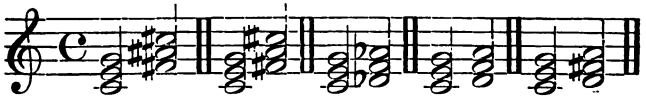
In the "*Marcia funebre*" in Mendelssohn's "Midsummer Night's Dream" a charmingly comic effect results from such a progression; enhanced by the peculiarly plaintive tone of the instruments employed.



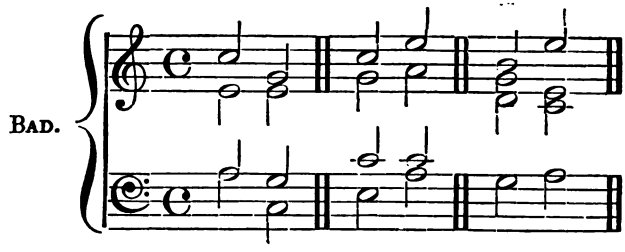
43. When, by the addition of a sound consonant with both fifths, a connecting link is formed between the two combinations, the harshness of the consecution is much abated; although, certainly, not entirely destroyed.



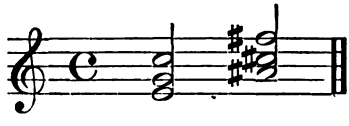
On the other hand, the completion of the triads often increases the discordancy.



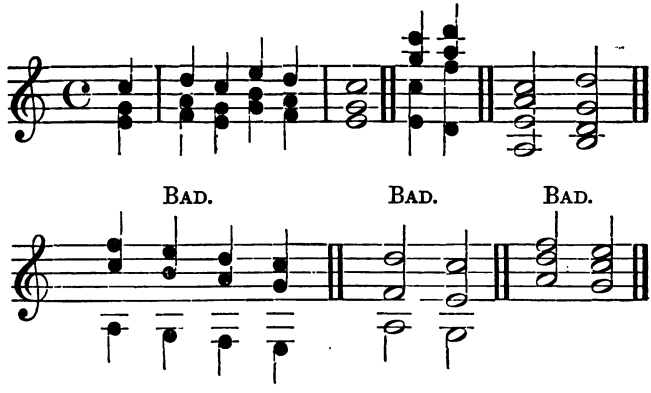
44. When the highest, and lowest, parts skip—*i.e.*, move more than a tone—by similar motion, to two notes forming a fifth the sudden great rise, or fall, of the outer (and, therefore, most prominent) parts gives to that consonance a force, and point, which greatly increase any discordancy that may exist between the two sounds and the preceding notes in the same parts. Unless from another form of the same triad, or from a chord having its root a fifth below, or above, that of the second combination, it is well for the outer parts not to move in the same direction to a fifth except when, if the bass skips, the treble progresses only a tone; or, if the treble skips, the bass moves only a semitone.



45. A succession of perfect fourths has, so long as only consonant chords are used, the same characteristics as one of fifths; but is not quite so harsh, because the ratio of vibrations being rather more remote ($\frac{4}{3}$, instead of $\frac{3}{2}$) the sounds are not so closely related. Except when the movements of the several parts are objectionable (41)



the addition of thirds from the roots of the chords, taken closely below the fourths themselves, deprives the consecutions of much of the objectionable force they have when both the sounds forming the greater consonance are in outer parts, or when the lower note of the fourth has the strong, full, waves of a bass-note.

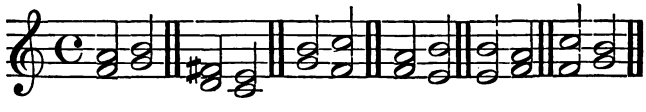


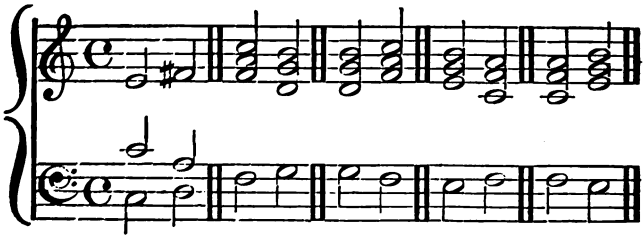
Indeed, in consequence of the strong vibrations of the lowest series of sounds, no part should ever run in fourths with the bass, except when some note can be retained as a connecting link between the two chords. (135)

46. Nor can that form of a triad which, having the fifth from the root (12, 13) as the bass-note, gives the greatest force to the inversion (or upside-down character) of its most important consonance, be used with the same freedom as that in which the strong waves of the third cover, to some extent, the force of the more complete consonance. Almost the same care should be exercised as to the movement of the two outer parts to a perfect fourth as to a perfect fifth. (44) Only from another form of the same chord, or from a

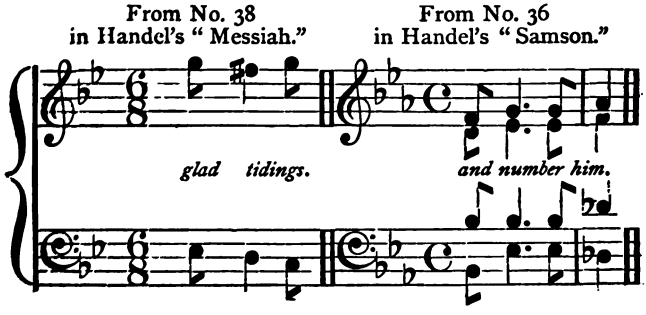
harmony so closely related that the fifth of the one chord is the root of the other, ought both the treble and the bass to skip by similar motion to a perfect fourth. In any other case it is well, when there is no connecting sound (71) common to both harmonies, for the treble to move only a tone if the bass skips in the same direction; and for the bass to move only a semitone if the treble skips.

47. Major thirds, and their inversions minor sixths, (being less consonant than perfect fifths, and their inversions,) may, generally, be used in succession without much scruple if the parts, individually, progress well. (41) But, in the outer parts, a consecution of either, rising, or falling, a tone; or a progression from a major third to a perfect fifth when the lower part descends one note; or from a perfect fifth to a major third when the lower part rises one note is, without the continuation of some sound as a connecting link (71, 135) between the two chords, characterised by a little abruptness;

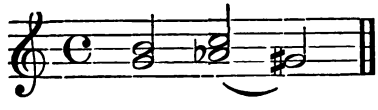




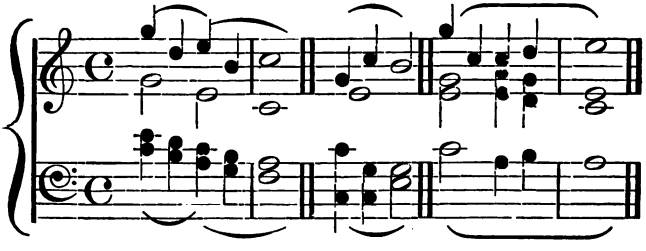
not without charm after a long prevalence of closely connected chords; but tiresome, and displeasing when frequently resorted to.



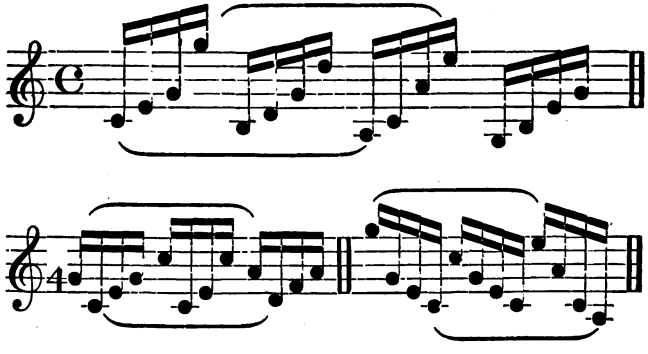
48. Major thirds, moving by semitones, have a substantial connection: both the upper being as consonant with both the lower notes as the laws of tempered sounds require. (30)



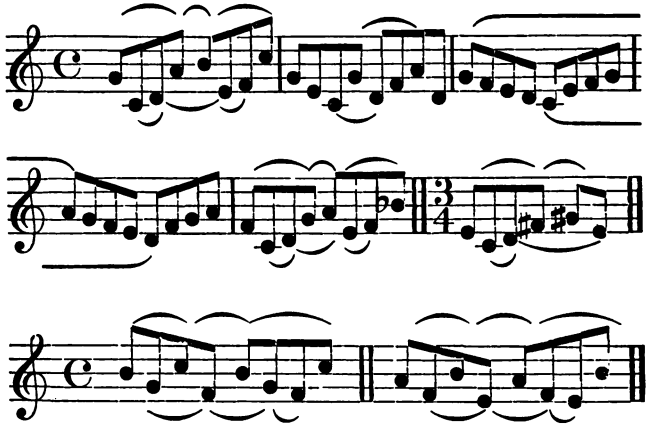
49. The disagreeable effect of a consecution of fifths in the outer parts is, often, not destroyed by employing one, or more, intermediate triads; especially when the objectionable chords are used upon the accented (55) portions of the rhythm.



50. When chords are broken into *arpeggi*, the different sounds being used in succession, rather than simultaneously, the rules with regard to the progressions of the parts should be strictly observed.

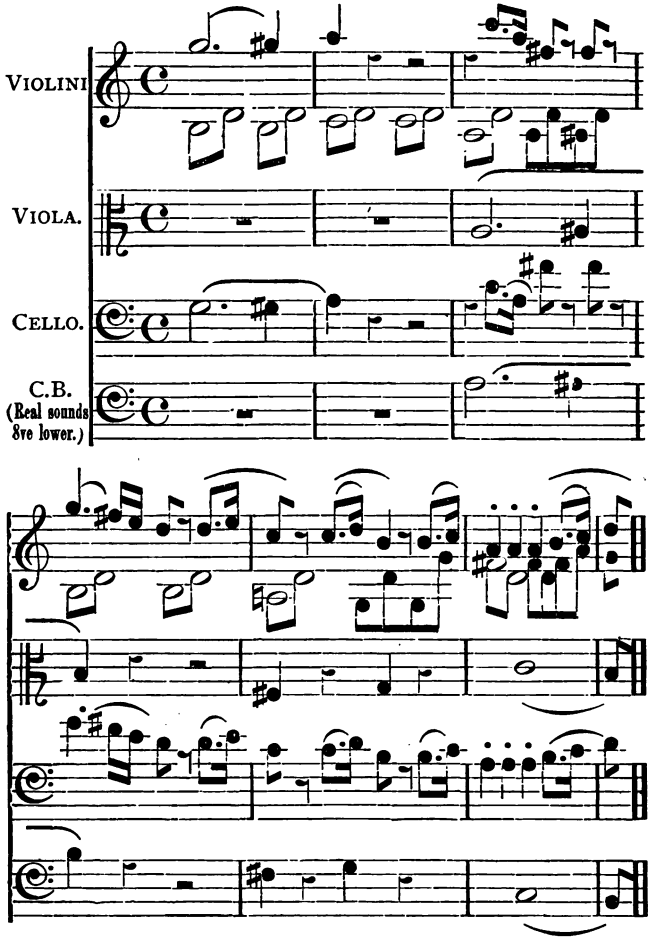


51. If, in the progressions of a melody, or single part, the highest and lowest sounds form a quick succession of consonances, such as have been objected to, some degree of harshness is caused.



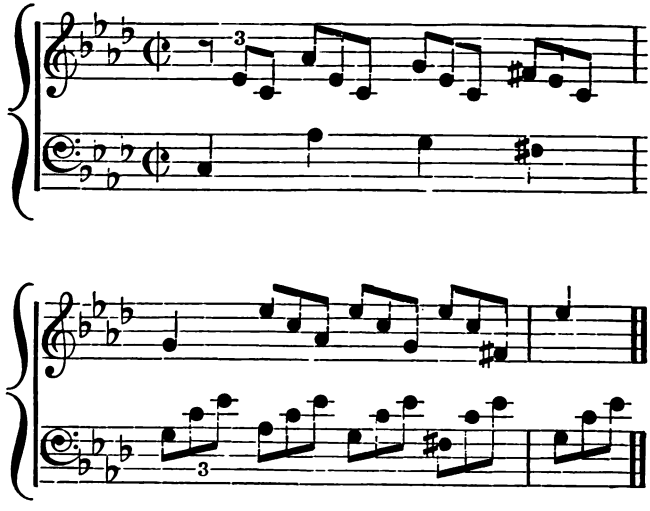
52. Although the objection to a succession of octaves between any two parts does not at all resemble that to a progression of fifths; and although a man and a woman, attempting to sing the same tune, do not generally utter unisonous, but octave, sounds; and although when, in either choral or instrumental music, a melody intended strongly to predominate is, frequently, doubled in the octave;

From Mozart's Symphony in C, ("Jupiter.")

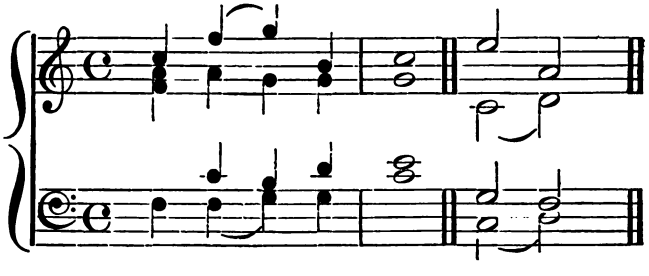


and although, while the root of the harmony remains unchanged, even the two outer, and most prominent, parts are occasionally made to proceed in octaves;

From Beethoven's 1st P. F. Sonata.

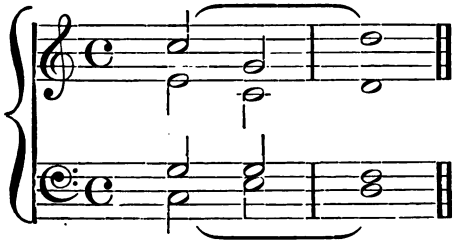


still, a single consecution of octaves in two parts that, generally, differ from each other, having separate melodies, unduly increases

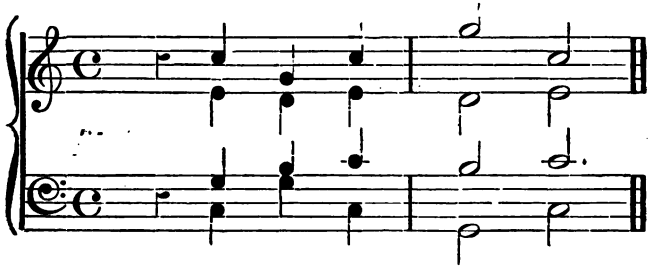


the strength of one progression, and causes a sudden interruption to the even flow of the

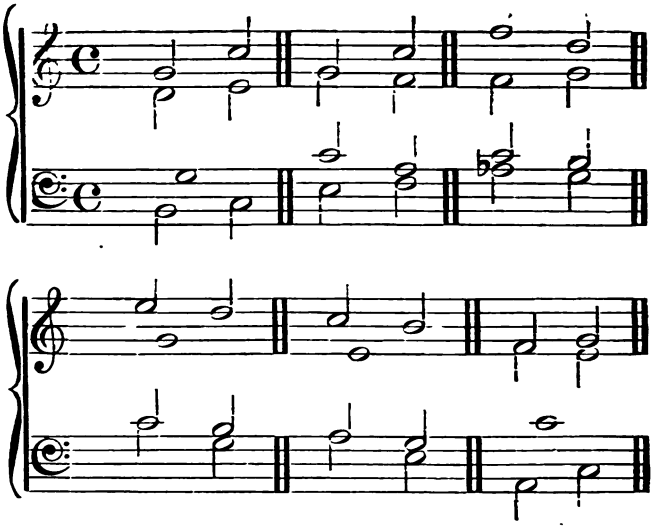
harmony. This is, sometimes, disagreeably felt when the octaves are formed by the two outer parts, (55) with intervening chords;



except when the fifth of the one chord is the root of the other. (44, 46)



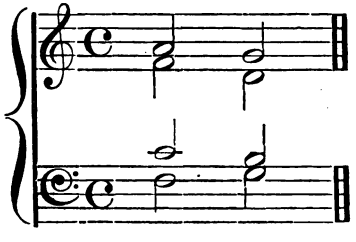
And it is prudent to exercise the same care with regard to the similar motion of the outer parts to two notes forming an octave as is required (44) with respect to the progression of the same parts to a perfect fifth.



53. But it must be remembered that consecutions of fifths, and octaves, (as well as the other objectionable progressions which have been referred to,) are disagreeable only when the two similar consonances occur in the same parts. In most chords some sound must be doubled in the octave, or unison; (14) and some two parts will, generally, be separated by the interval of a perfect fifth. But, even when the parts are rendered with as nearly equal force as the natural predominance of the two outer progressions will allow, so delicate is the appreciative power of the human ear that the slightest difference

in the kind of tone will enable it to distinguish the movement of each of the combined melodies, and to perceive that the two octaves, or fifths, are not formed by waves having the same amplitude, resonance, and exact relationship to each other.

In the following example the alto of the first triad, and the treble of the second form octaves with the bass: the treble of the first, and the tenor of the second form major thirds with the bass: the tenor of the first, and the alto of the second form fifths with the bass: the alto and tenor of the first triad, and the treble and alto of the second form perfect fourths: and all these intervals are upon following degrees of the scale. Still, no disagreeable effect is produced; although the harmony would flow on more smoothly were some sound common to both chords, forming a connecting link between them. (71, 135)

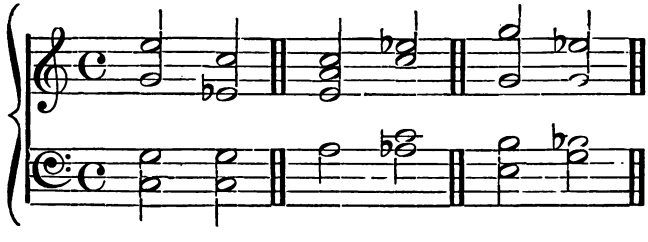


54. But there is a kind of consecutive discordancy—known as "false relation"—caused by *not* taking in the same part, in two consecutive chords, roots, or thirds, or fifths, of triads which have been changed chromatically.

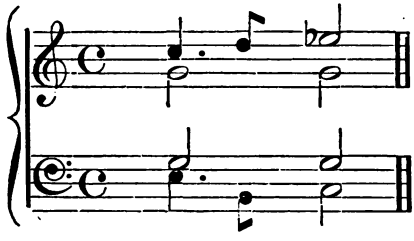
In the first bar of the next example the major third of the treble clashes against the minor third of the *same* root in the alto; the two parts being in different modes, or forms, of the same key.

In the second bar the tempered root—**A** flat—is correctly placed in the same part as the A natural, also a root sound: but the E flat in the treble sounds very discordant, and perplexing, immediately after the E natural of the tenor: each being the fifth of its triad.

In the third bar the E flat and the E natural ought to be in the same part; both being roots of chords.



But, so long as only consonant triads are employed, there is little danger of harmonic progressions similar to those in the second, and third, bars; because of the difficulty of avoiding in them consecutive fifths, and octaves. But a fault similar to that in the first bar may—without care—very easily be committed: especially as the discordancy of the parts is felt even when a chord is placed between the major and minor forms of the triad if the intervening harmony is not long enough sustained, or by the introduction of

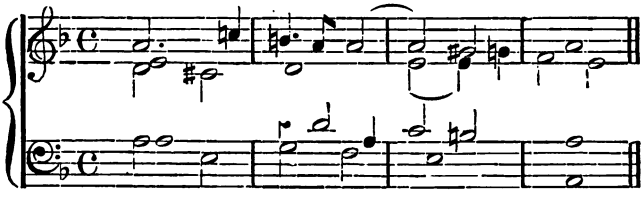


acute discords (71) made sufficiently pungent to absorb the attention of the ear, and weaken the recollection of the first triad.

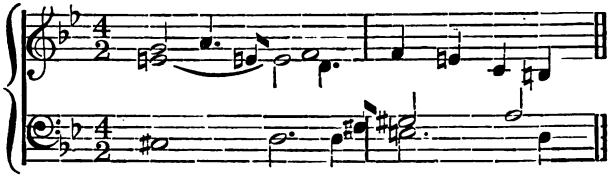
Those writers who are now spoken of as the "old masters" of music, (while not, of course, neglecting the relationship of simultaneous sounds,) were especially careful about the beauty, and melodious flow, of the individual parts. Many of their works—worthy of the highest admiration as models of pure part-writing, containing the most ingeniously combined melodies, and evincing consummate scholarship of the kind chiefly sought after at the time when they were written—are replete

with progressions, and harmonies, repulsive to ears trained to delight chiefly in the absolute richness and voluptuous beauty of consonant, or nearly related, sounds. In the performance of old music such passages as contain "false relation" in its grossest form are, generally, amended. A chord at once major and minor in which, while the "lesser third" is held in one part, another part, having a more florid phrase, passes through the "greater third" in order to avoid some awkward interval; or, while the greater third is held, passes through the lesser third, would be intolerable to most modern musicians:

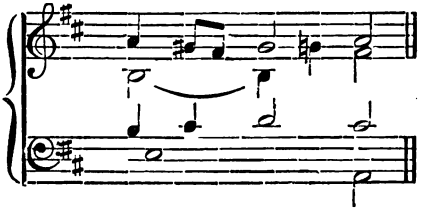
From W. Byrd's Motet "Venite exultemus."



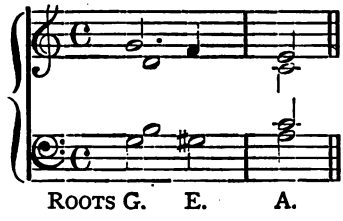
From H. Purcell's "Nicene Creed:" in B flat, (Boyce's edition.)



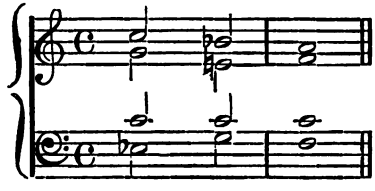
From a "Magnificat," by Dr. W. Child.



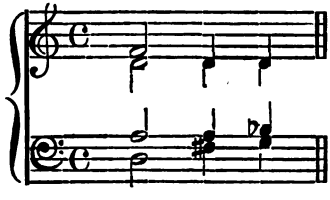
although, occasionally, some little carelessness in this matter is manifested by hasty writers.



But "false relation" between consecutive chords is found in many church compositions still performed. Examples of a confusion of mode like the following occur in many of the Anglican chants, and hymn tunes, and in some of the larger works, in common use.



Such progressions are not to be found in modern music of the highest class; except where—as in the Recitative No. 17 in Haydn's "Creation"—

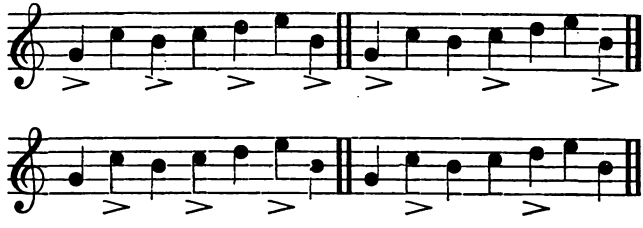


and in a few similar, and comparatively unimportant, instances, they have, manifestly, been overlooked by their authors.

Chapter VII.—Rhythm.

55. Musical, like all other, language is subject to certain rhythmic laws; which, by giving importance to particular sounds, impart to the whole a distinct meaning, and point. By a change of accent the character of a musical sentence may be altered as decidedly as may the sense of any verbal utterance.

The first phrase of an old Scotch Melody, variously accented.



56. The accentuation of ordinary speech is effected by slightly prolonging, or by giving increased force to, the important word, or syllable. When the accents follow each other regularly one of the conditions of poetry is secured.

57. Prolonged, or musical, sounds are not, so long as an unchanged pitch (whether of a

single note, or of a chord) is maintained, subject to any peculiar accent. When any words are monotoned, or recited without inflection of the voice, they bear their usual emphasis only. But a melody—or succession of notes of different degrees of acuteness—is governed by rhythmic laws similar to those of poetry. The individual pulses, or feet, by which its onward march is measured must have a certain definite, moderately rapid, time-value; and combine in groups of similar length, having a regular recurrence of emphasis. The rhythm may be hurried, or retarded; or frequently changed; but the ear always selects, and seizes, certain sounds; by which to measure the progress of the music; and, by so doing, imputes to them an emphatic value exceeding that of all the intermediate notes.

The old church melodies are, like all other music, subject to these rhythmic laws: for, although it is sometimes contended that the length of the notes should be governed, solely, by that of the syllables to which they are sung, this is a mere theory, constantly condemned by the practice of those who, attempting so to render them, undesignedly fall into a measured swing; of frequently changing rhythm—it may be—but of distinct pulsation.

58. Musical, like ordinary verbal, accentuation is effected by giving greater length, or loudness, to certain pulses. But, as in poetry,

having once established a certain swing, or measure, very slight care is necessary to preserve it. The ear does not so much require the continual prominence of the rhythmic as take cognizance of any excess of force of the less important, intermediate, sounds.

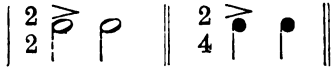
59. Musical rhythms are of two kinds:— duple, and triple. The distinct steps in the march of a movement may be separated by one, or two, weaker subdivisions; and must combine in twos, or threes, to form a larger measure; the initiatory pulse of which is marked by a stronger accent.

60. For convenience in reading short upright lines, called "bars," are used to divide music according to its accents. The term "a bar" is, however, generally used to denote the music between any two of these lines, rather than the lines themselves. In every "bar" the first pulse bears the strongest emphasis. A "time signature" is usually placed at the beginning of every piece, and at every changed rhythm. A large C denotes that each bar is of the value of a semibreve; the longest note generally used in modern music. When figures are used they describe the fractional parts of a semibreve in each measure. The mark ¢ means that the com-

plete measures of four minims found in old church music have, for convenience to the reader, been divided; so that each bar is only half a full measure. This should not be confounded with the measures described in the next paragraph; which are so written in order to secure strong accents on the alternate pulses.

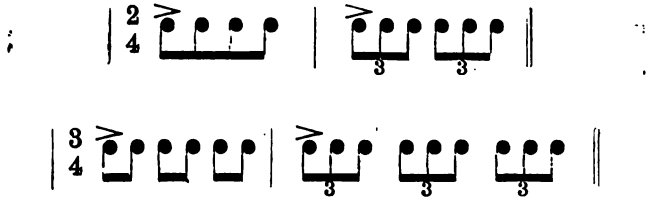
61. A bar may have only the one, strong emphasis at its commencement; or it may contain two, or three, accents; or groups of pulses; each pulse having its one, or two, weaker divisions; as well as its initiatory emphasis.

62. The simplest, and most marked, rhythms are those having only one accent in a bar. If the accents mark the alternate pulses music of this kind may be written in measures of two minims, or (in accordance with modern notation) of two crotchets.

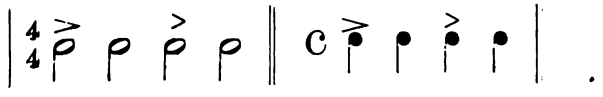


If the accents are triply divided three minims, or crotchets, or quavers, may be used; the difference being, simply, one of notation.

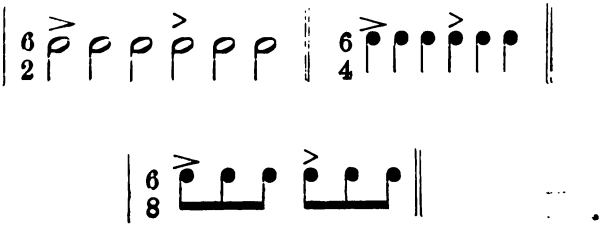
In either of these measures the pulses may be duply, or triply, divided. Thus in $\frac{2}{4}$, or $\frac{3}{4}$, rhythm the crotchet-value may be composed of two ordinary, or of three triplet, quavers.



63. In bars of four pulses—whether expressed in minims, as in "alla breve" time; or, more modernly, in crotchets, as in "common" time—

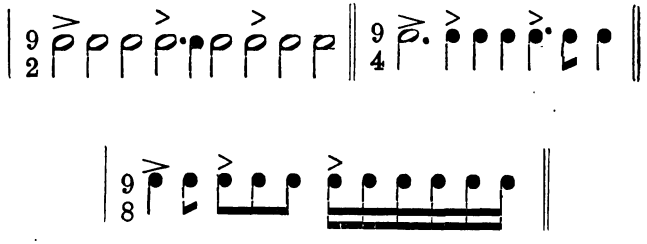


as well as in measures of six pulses,



there is, in addition to the strong emphasis at the commencement, a weaker accent at the beginning of the second half, of each bar.

64. In measures of nine minims, (obsolete) crotchets, or quavers—



a difference of notation only—there are, in addition to the strong emphasis, weaker accents on the fourth, and seventh, pulses.

65. But, whatever may be the contents of a bar, one such measure does not constitute a perfect, or complete, rhythm. The initiatory accents of succeeding measures, although not differing in intensity so greatly as the pulses in any one bar, are of unequal strength. Thus we have duple, and occasionally triple, phrases in which the commencement of every second, or third bar is marked with increased emphasis. And there appears to be something peculiarly satisfactory in what may be

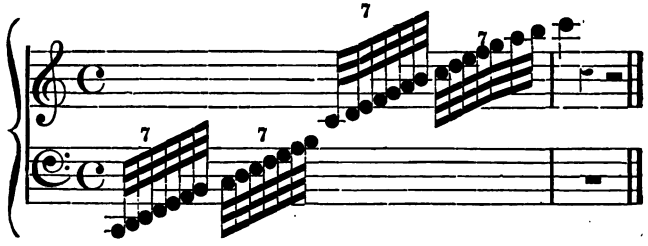
called a *musical sentence*, or passage contained in four complete rhythms. The large majority of short, simple, airs—in which the natural feeling for, and delight in, simplicity of measure has been fully yielded to, and no artificial development, or extension, employed —consists of sentences of eight bars, or four perfect rhythmic phrases.

In old music we, sometimes, find bars of eight, or twelve, *slow* quavers; each quaver marking a decided pulse, or step in the onward march. Every such bar is a complete rhythm: and should, to be in accordance with modern modes of writing, be divided.

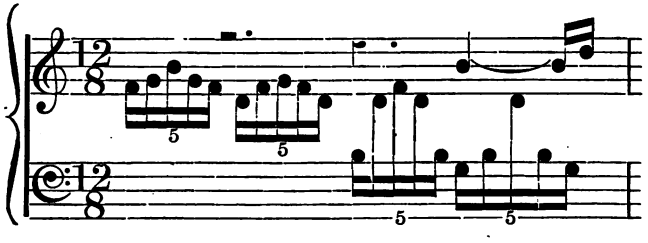
66. Musical accents are, then, of various degrees of force. The strongest are those which mark the beginnings of groups of two, or three, bars; and initiate the full swing of a complete rhythm. Next in intensity are the answering beats on the first pulses of the intermediate bars. In most bars the feeble accents respond to the more powerful: and, in all, the weak pulses serve to make more prominent the strength of vibration which gives a throb to the more highly marked steps in the onward march of the movement.

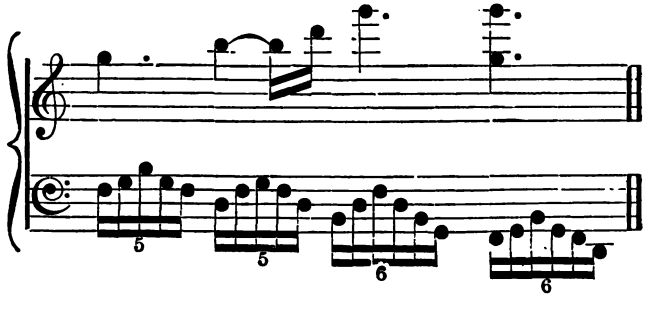
67. It is possible to mix the two kinds of rhythm in one pulse; or in consecutive pulses, accents, bars, or phrases.

Pulses of duple, and triple, subdivision

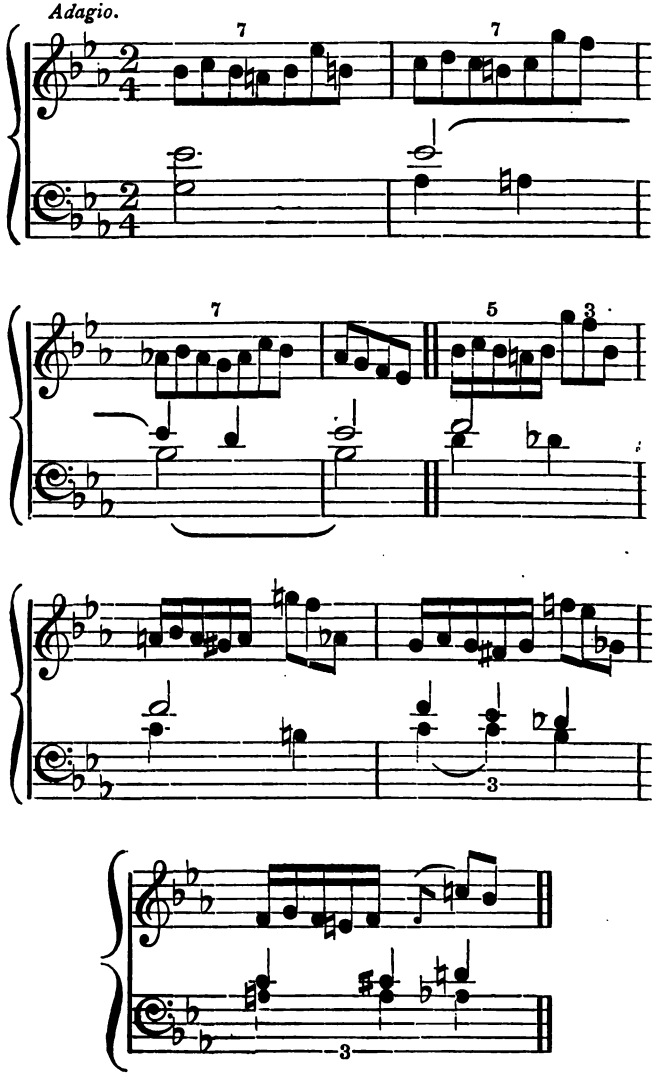


From Beethoven's P. F. Sonata, Op. 57.





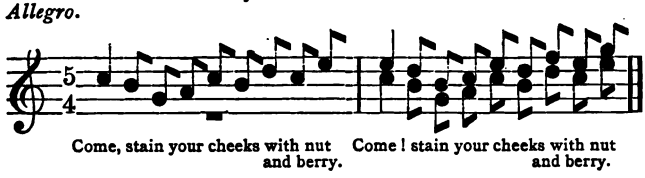
From Schumann's "Carnaval," Op. 9.



or accents of alternate duple, and triple, pulses,

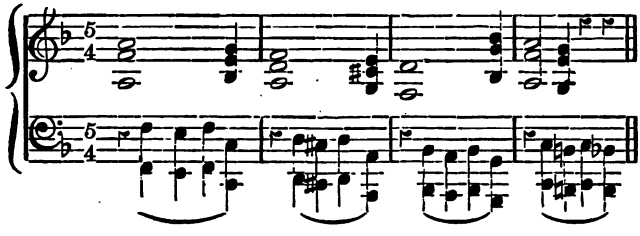
From the Gypsies' Glee in "Harlequin and Oberon," by William Reeve.

Allegro.



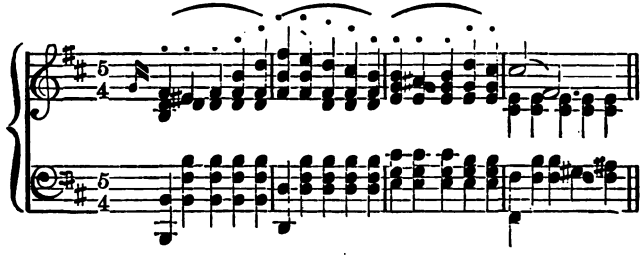
From Dr. F. Hiller's "Rhythmische Studien," Op. 56.

Andante grave.



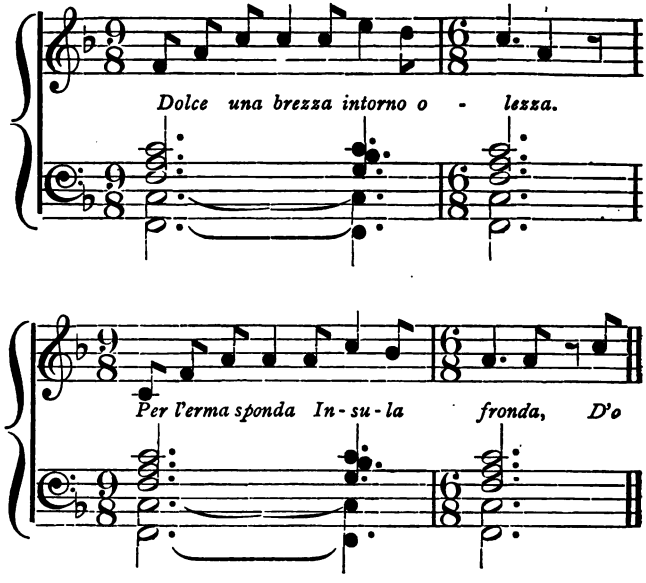
From Dr. F. Hiller's "Rhythmische Studien," Op. 52.

Andante.



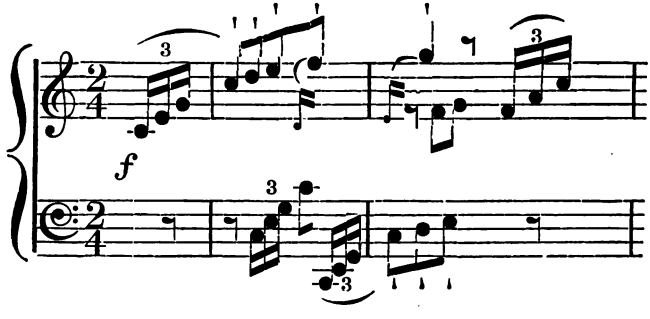
or consecutive bars of duple, and triple, accents

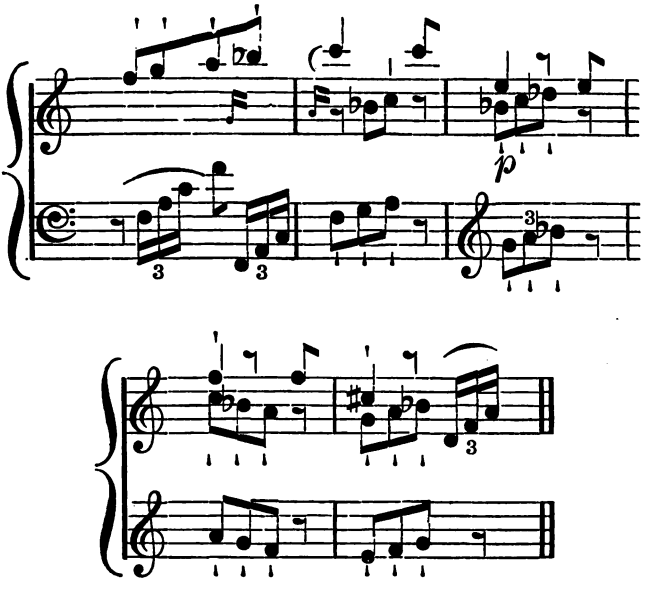
From Gounod's " Mireille."



or complete rhythms of two, and three bars alternately

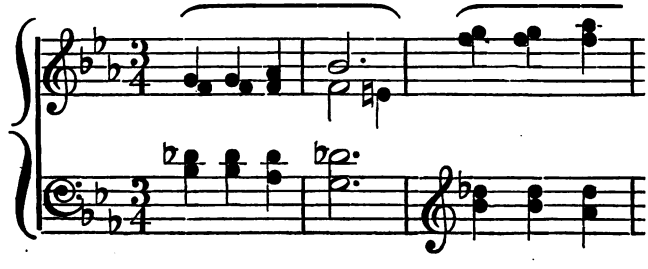
From Beethoven's P. F. Sonata, Op. 2, No. 2.

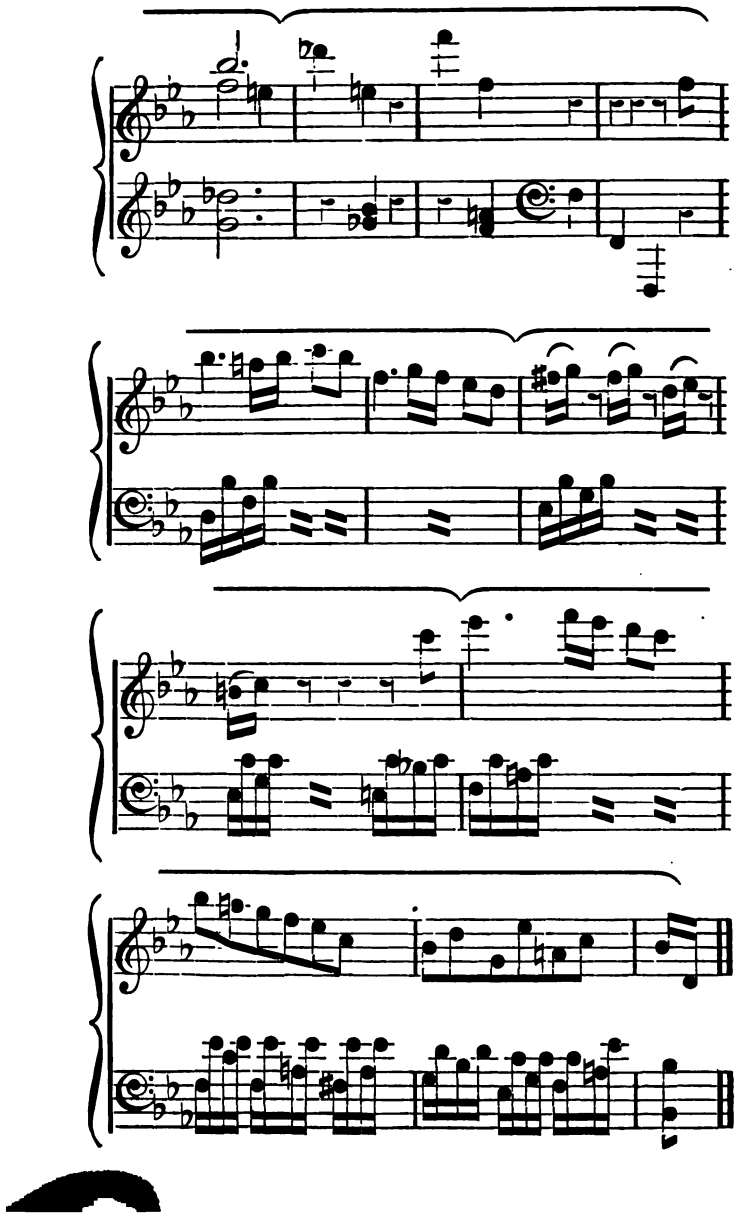




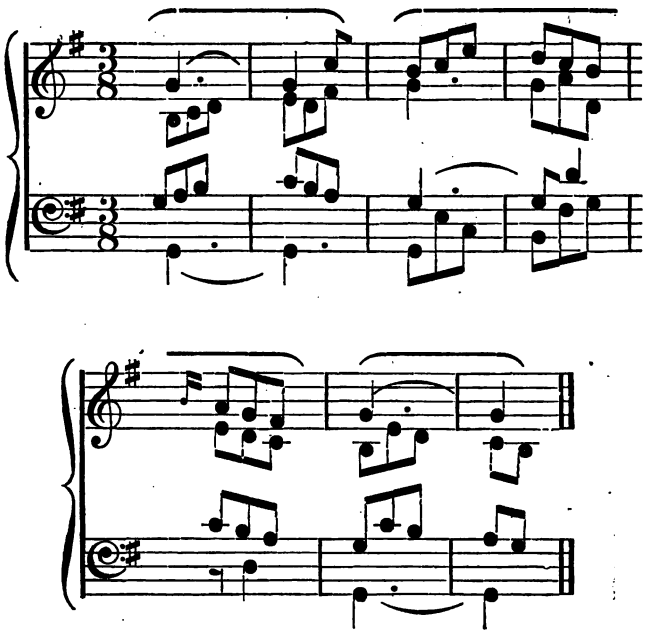
may be used. And examples are not rare of the insertion of solitary three-bar rhythms in the course of compositions, for the most part, of two-bar phrases.

From Beethoven's Sonata, Op. 31, No. 3.

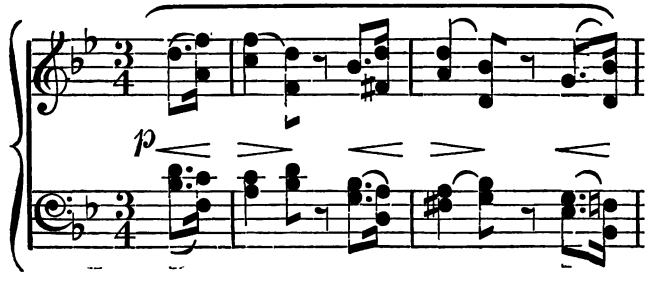


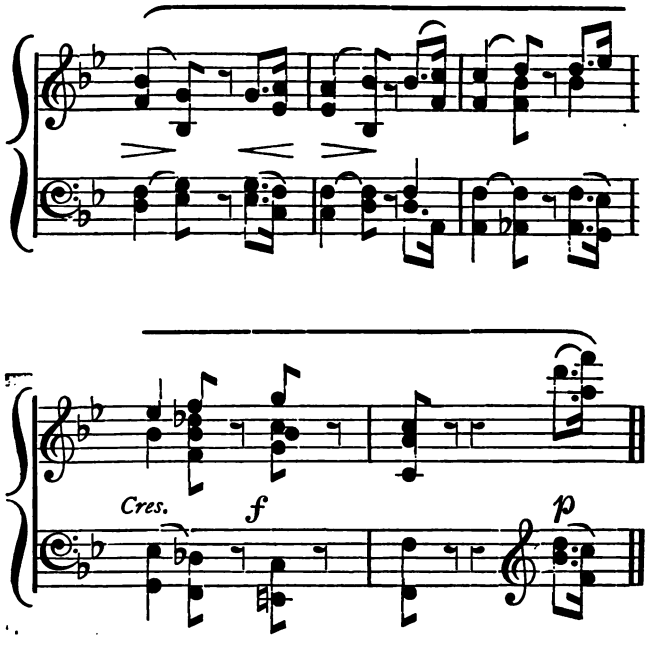


From Haydn's 13th Quartet.

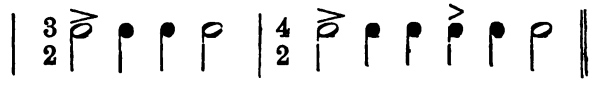


From Beethoven's P. F. Sonata, Op. 106.



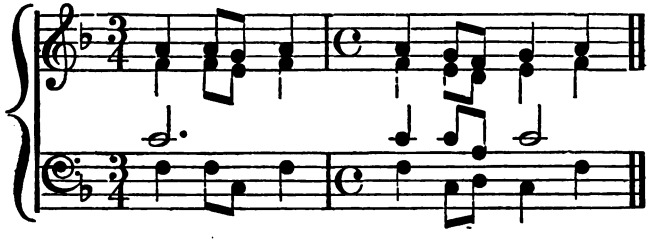


68. The "Anglican chant" is the most commonly known example of mixed rhythms. A "single chant" is really composed of two ordinary bars: which are usually subdivided, in order to mark clearly the pulses. The first bar is in triple, and the second in duple, time.



If written in accordance with the almost general rule of modern notation the mixed rhythm of the Anglican chant is immediately apparent.

Gregorian Melodies, adapted by Tallis.



Chanting is, however, a mixture of intoned reading, (57) and singing—properly so called. So long as no tune, or varied pitch, is used the strict laws of musical rhythm are not concerned. But when the note upon which a recitation is made is part of a melody it must, from the last accent of the recitative, be measured as included in a musical phrase.

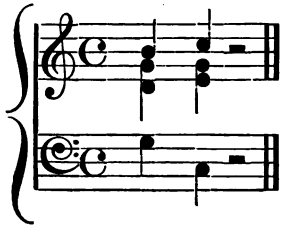
69. A composition often appears to end with an odd bar, or an incomplete rhythm. This is, however, only an apparent exception. By closing a movement upon a great accent the utmost firmness, and weight, are imparted to the concluding tonic triad; which should be written either of the full length of the rhythm, or with a pause; or, if it is not intended to be sustained, with rests after it, completing the rhythm. In either case the imagination does clearly supply the answering

pulsation which initiates another bar, and balances, or echoes, the strong accent of the final triad.

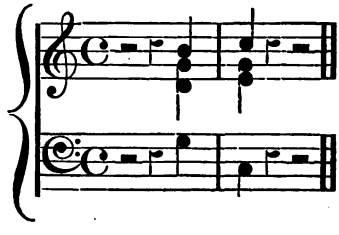
When any section of a movement is repeated care should be taken that the rhythm is not interrupted.

70. A recognition of rhythmic law has guided performers to the proper mode—not in accordance with the notation—of rendering the final chords of many of the recitatives in old music.

As often written.



As played.



Chapter VIII.—General Laws of Discords.

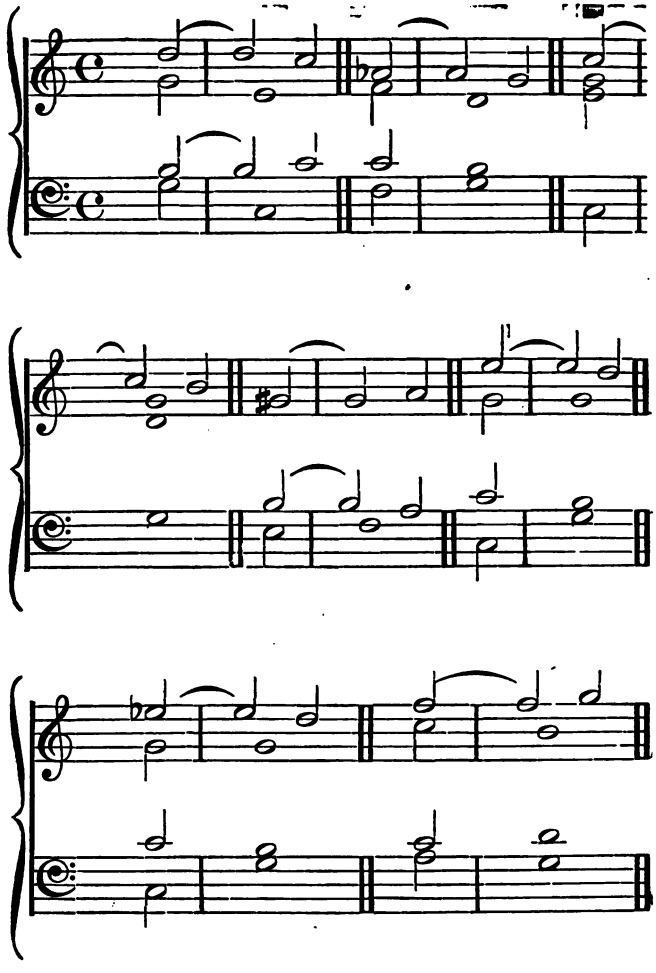
Section A.

To which constant reference should be made while studying the following chapters.

71. Large as is the number of consonant combinations available in any key, and diversified as are the effects resulting from a mixture of fundamental, diatonic, and remote triads, still greater variety may be obtained by a judicious use of the various dissonances which the chromatic scale (28) affords.

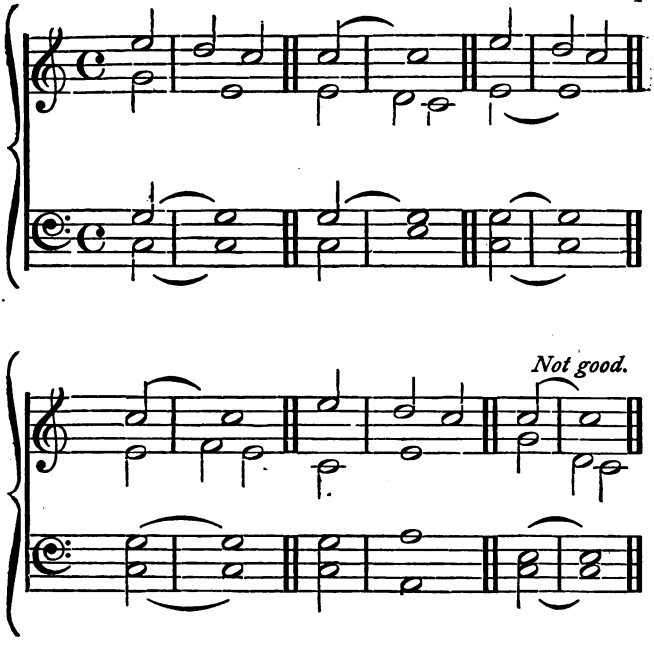
Discords are useful because, not only do they, in long compositions, keep alive the attention of the ear, exciting some degree of unrest, or anxiety as to the tendency of the intruding sound; but they serve, by the retention of some note, or notes, to link together chords which would otherwise have no connection; (45, 46, 47) and, thus, they render the harmony more smooth and continuous.

72. By a singer, or a player upon an instrument of the violin kind, nicer grada-



75. If a discord is not thus prepared it is used most agreeably, and with a smoother progression of the part, when it follows a note

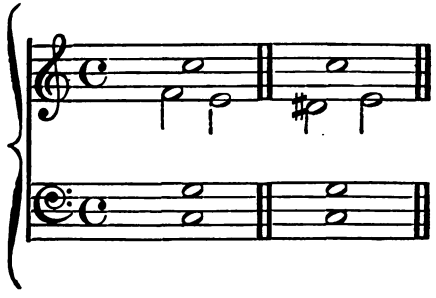
one degree higher, or lower, in the scale. It is important to attend to this rule in introducing discords in the inner parts in vocal music. (41)



76. A triad derives its fulness, and richness of effect, chiefly, from the imperfect consonance of its thirds. (15)

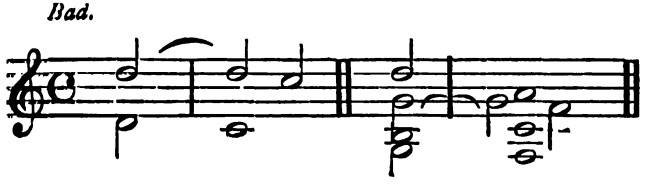
The introduction of a discord diminishes the necessity for the third from the root being included in the combination.

77. A discord serves instead of that sound of a triad to which it lies nearest, and which forms its natural resolution; consequently the semitone above, (111) or below, (105) the major third from the root of a chord is to be considered as standing in lieu of that third, to which the ear expects the part to proceed:

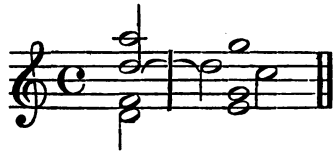


and the holding back, or suspension, (74) of any part, so as to produce the discord of a major, or minor, ninth, is not a sufficient avoidance of any consecution of octaves which would otherwise occur.

Bad.

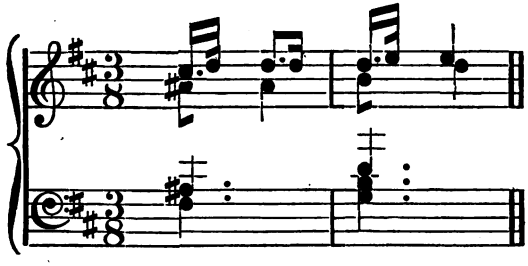


78. The disagreeable effect of a consecution of fifths upon following degrees of the scale may, however—except in the outer parts—be sufficiently avoided by the retardation of one of the sounds.



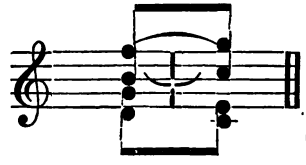
79. A consecution of fifths, even in the outer parts and upon the successive accented pulses, (49) may, by the introduction of pungent discords, be rendered tolerable.

Mendelssohn.

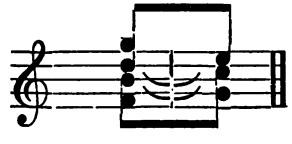


80. The air waves of two discordant sounds confuse, rather than strengthen, each other:

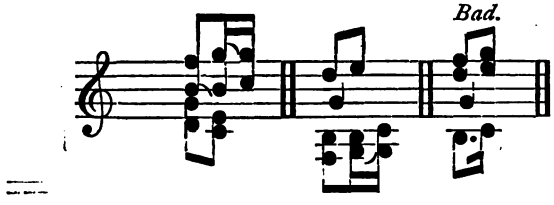
consequently, the progression of any two parts from an imperfect, to a perfect, fifth does not produce so disagreeable an effect as that characterising a consecution of consonant fifths. Still, such a progression



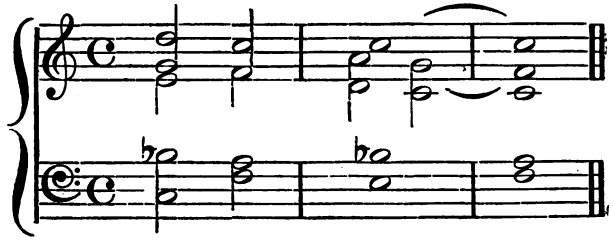
(though often used) is not altogether satisfactory: for the especial attention of the ear is always directed to the resolutions of dissonant sounds; and—somewhat as in the skipping of the two outer parts to a fifth (44)—this powerful consonance thus acquires a force which makes it disagreeably prominent. A similar objection applies to the inversion of such a progression when the lower sounds of the consecutive fourths (augmented and perfect) have the strong vibrations of bass-notes.



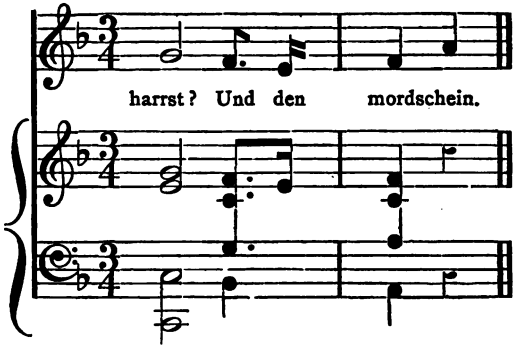
In all cases, however, when the fifths, or fourths, are not formed by the two outer parts, the retardation of one of the parts suffices.



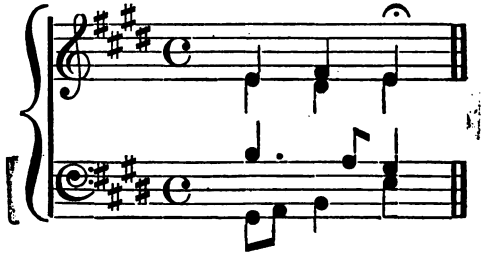
81. Some modern writers tolerate a consecution of perfect fifths when one of the sounds is discordant with the root of the chord in which it is used: or when the harmony is sufficiently discordant to partially draw the attention of the ear from the progressions.



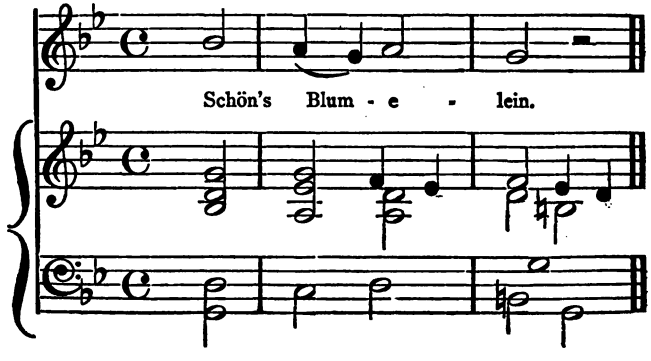
From Mendelssohn's Song, "Frage."



From No. 3 in Mendelssohn's "St. Paul."



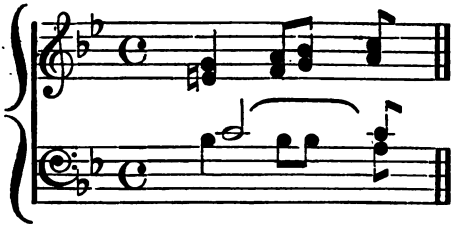
From Mendelssohn's Song, "Erndtelied."



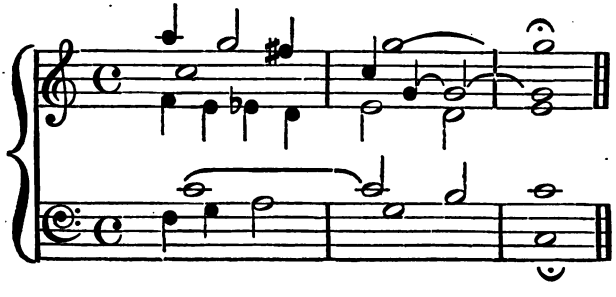
But, however strongly the attention of the ear may be attracted by the introduction of powerful discords, such a progression always has that undue prominence which characterises such consecutions.

82. Discords are, sometimes—especially in a great number of parts—transiently doubled in order to preserve the regularity, and contrary progression, of the parts.

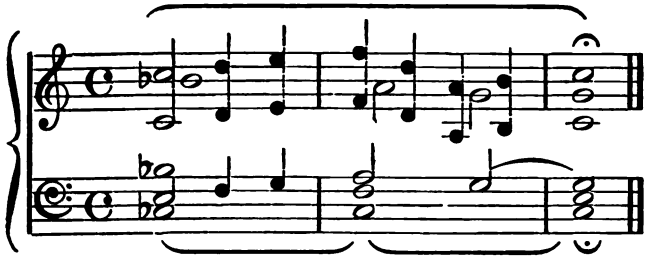
From "*O every one that thirsteth,*" in Mendelssohn's "Elijah."



When a discord forms the connecting link between, or is the sound in common in, a number of chords, it may, with advantage, be doubled.



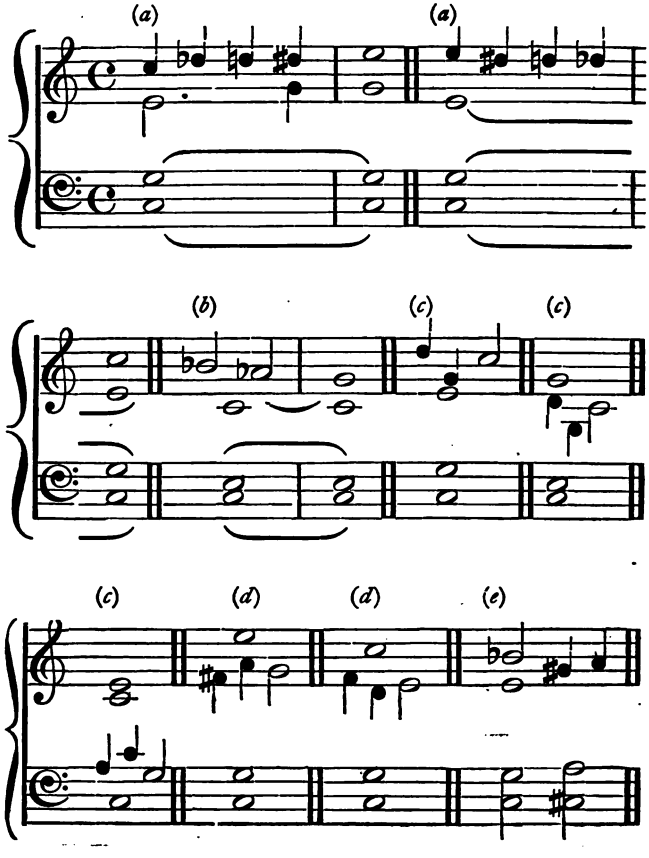
Of course when an entire phrase is doubled in the unison, (as in orchestral music,) or in the octave, the dissonant—as well as the consonant—sounds may be thus strengthened.



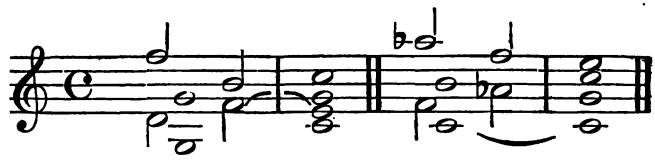
But it must be remembered that a doubled discord—being still more powerful than a doubled imperfect consonance (15)—almost monopolises the attention of the ear; and destroys that balance of the parts which is one of the chief charms of a well-arranged combination of sounds.

83. A part containing a discord may, while the root of the harmony remains unchanged, pass to another discord at the distance of a semitone, (*a*) or to one of a different diatonic name (*b*) at the distance of a tone; and the resolution of the last discord will suffice for the whole. Or, before proceeding to its reso-

lution, (*c*) the part may pass to any sound of the triad: or it may move a third, to another discord chromatically related to the same, (*d*) or the (*e*) following, root: the true resolution of both discords—to which the part must ultimately go—lying between them.



84. Two, or more, parts may exchange discords.



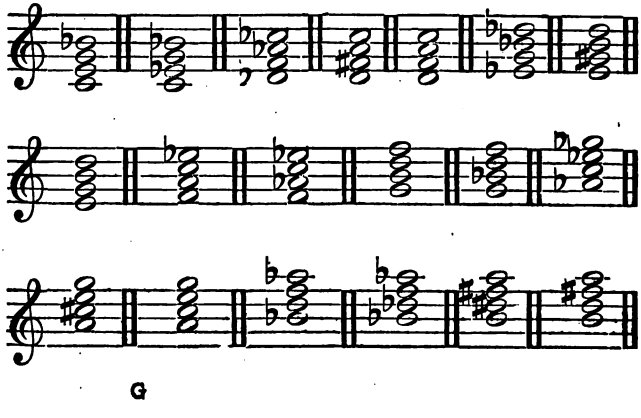
85. The immense variety of effect which the different discords afford is of the utmost beauty and value. But it is well to remember that the ear delights chiefly in consonance; and warmly welcomes a return to strict relationship, and order, after any temporary confusion of sound-waves. A judicious writer (except in highly dramatic, or descriptive, music) uses the more incongruous combinations very sparingly; and, chiefly, to increase the charm of the more satisfactory harmonies.

Every dissonant, as well as every consonant, chord in any key has its peculiar, and characteristic, effect; and, when often used, becomes familiar, and wearisome, in proportion to its harshness.

Chapter IX.—Minor Sevenths.

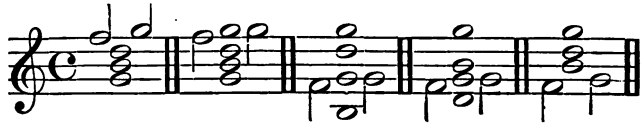
86. The minor seventh from the root of a chord is one of the least pungent, and, therefore, one of the most generally useful, of the discords which the chromatic scale of that root affords.

It may, without inevitable modulation, be combined with any proper chord of the key; even when the seventh itself (being always a discord; and, therefore, not necessarily of very exact attunement) is not one of the sounds of the ordinary chromatic scale of the tonic.



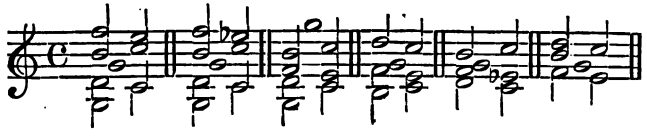
A chord containing a seventh may, like all concordant, or other discordant, combinations, be used in all its inversions: and may be resolved (72) on the same, or the following, root.

87. When resolved on the same root the seventh should be followed by the eighth: with which it is so slightly discordant—♭—that the octave, or unison, of its resolution may, without much harshness, be held in any other part.



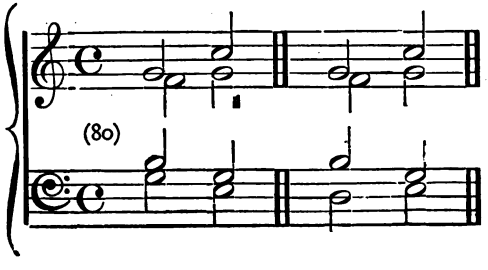
88. Added to a major triad the seventh is so much more discordant with the third than with the root of the chord that the part having the third is almost as much fettered as the part having the seventh itself. The "leading" (24) tendency of the sensitive note is immensely increased by the nature of the interval which it forms with the seventh: and the repelling, or attracting, influence which the two sounds have for each other (according as they form an augmented fourth, or a diminished fifth) is best gratified by such a

change of harmony as will allow both the parts to *move* to some two notes consonant with each other. The discord is, therefore, generally resolved on the following chord; the part having the seventh frequently falling to become its third.



Because it thus increases the dominant tendency of any major chord; and because only upon the fifth of the scale does the chord require no sharp, or flat, to either of its sounds, the discord is, when used with a major triad, known as the "dominant seventh."

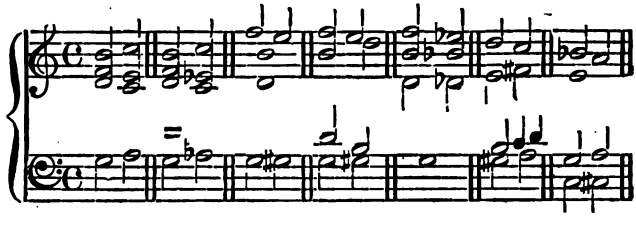
89. When the chord of the seventh is followed by the first inversion of the chord to which it stands in dominant relationship the part having the discord should rise.



90. The part having the seventh may, however, fall a tone; or a diatonic, or chromatic semitone, to any sound of the succeeding chord, either consonant, or dissonant, with the root.

When the third in the chord of the seventh is also a consonant sound in the following chord (*a*) the part having it is unrestricted in its progression.

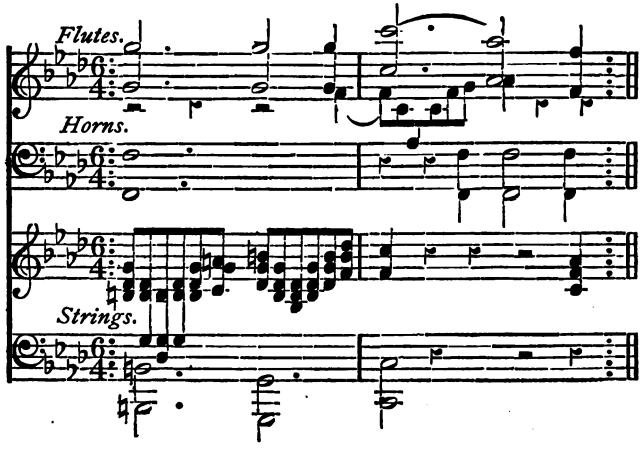
(*a*)



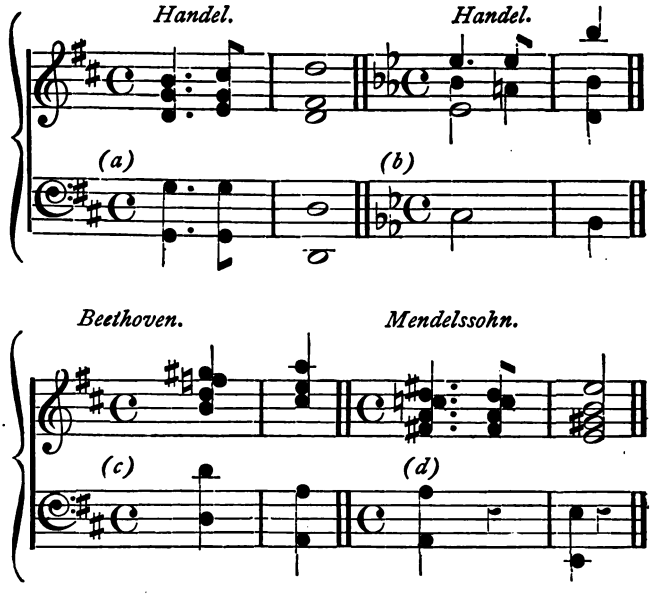
91. And, besides the falling resolutions of the seventh, the part containing it may rise a tone; or a diatonic or chromatic semitone; or may remain, or be enharmonically (31) changed, to form any sound of the following chord. (*See large table of resolutions.*) Some of these progressions will, of course, involve a change of key; either by the seventh being resolved upon a combination having no relation to the original tonic; or by both the chord containing the seventh, and that which forms its resolution being more closely con-

nected with some other, than with the old, key note. Careful scrutiny is, sometimes, necessary (140) to detect the real root of the harmony in unexpected, and remote, resolutions.

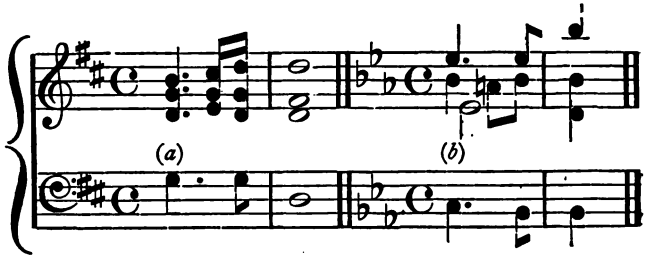
In the following passage from Mendelssohn's Overture, "*Melusine*" F, apparently the seventh of the first chord, is strengthened in several octaves, and held as the root of the harmony in both bars; and G is treated as a major ninth; (100) moving to another sound (C) of the chord, (83) before proceeding to the resolution.

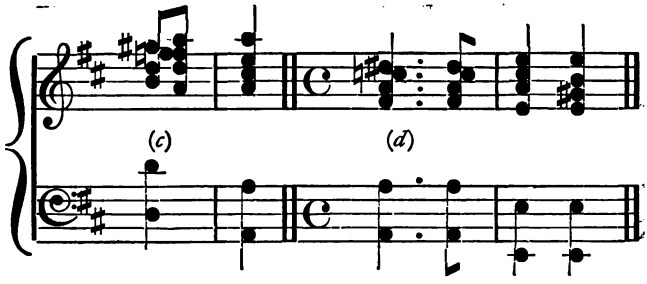


A progression in which, apparently, the minor seventh, moving with the rest of the chord, skips to the root of the following triad, has been repeatedly used by various writers.

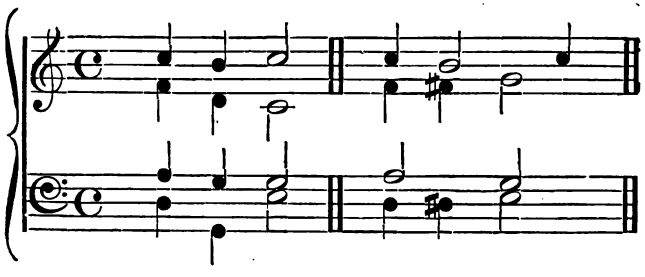


In all these, and many similar, cases the note from which the part skips downward a fourth, (*a. c. d.*) or upward a fifth, (*b*) is treated as the root of a chord containing an augmented eleventh (117) with, or without, other chromatic discords.





92. When the minor seventh is added to a minor triad it is dissonant with the root only: and the third, being—like the fifth—consonant with all the other sounds of the chord, is not fettered in its progression.



93. The first inversion

of this combination is, sometimes, called the chord of the "added sixth." (115)

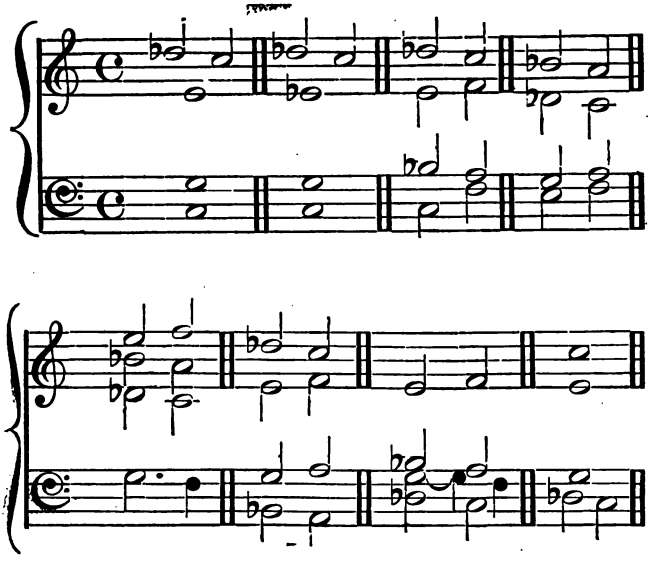
Chapter X.—Ninths.

94. Upon any proper root, (22, 37, 38, 39, 40)—with, or without, a seventh—the minor, major, or augmented (27) supertonic of its chromatic scale may, without necessarily involving a modulation, (145) be used.

95. A chord containing a ninth, of either kind, may be used in any inversion: and the discord may be resolved on the nearest sound consonant with the root; or be sustained until the harmony is entirely changed.

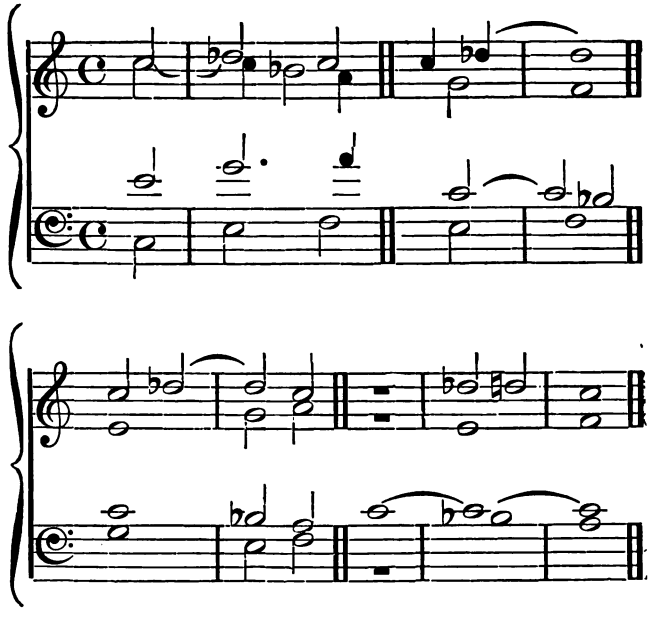
96. A minor ninth is more frequently used with a major, than with a minor, chord. The first inversion of the former combination is often called the chord of the "diminished seventh." Because of the extreme harshness of the simultaneous use of the minor ninth with any octave of its natural resolution the root of the chord is, generally, omitted except when it is used as the bass-note. When the chromatic note itself is placed in the lowest part an octave of its resolution may be held

in the treble less disagreeably than in any nearer part.

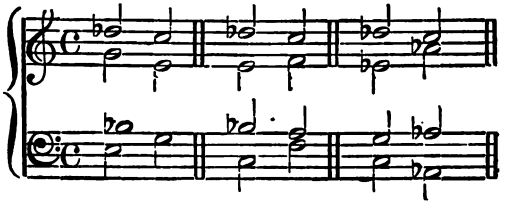


97. The most satisfactory ways of combining, at whatever distance, the minor ninth and its resolution are to allow the eighth to be heard first; (143) by announcing it separately, or by continuing it from the preceding chord: and either treating it as a discord, and causing the part to pass down to the next degree of the scale, before the resolution of the ninth; or making the part having the chromatic sound pass to the major ninth—

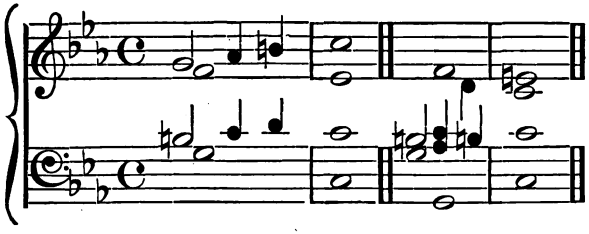
and, thus, decreasing the dissonance—before resolution.



98. When the third of the chord is consonant with the root of the harmony in which the ninth is resolved the part having it is not fettered in its progression. (88)

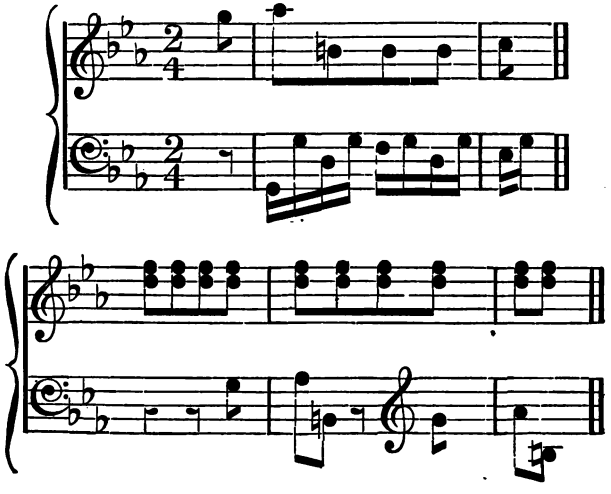


99. In a purely melodial progression a florid part may, while the root of the harmony remains unchanged, move an augmented second, from a minor ninth on the dominant up to the "leading note." (24)



Or, the leading note is so well defined, and prominent, a sound in any scale that a part may skip down a diminished seventh to it, from a minor ninth.

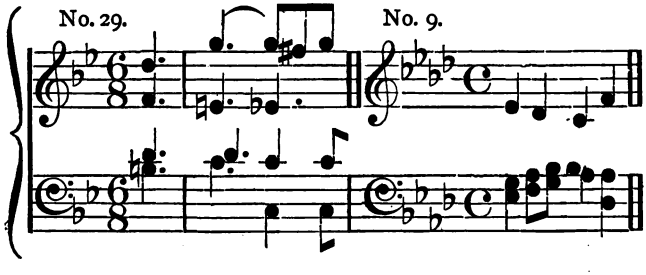
From Beethoven's P. F. Concerto, in C Minor, Op. 37.



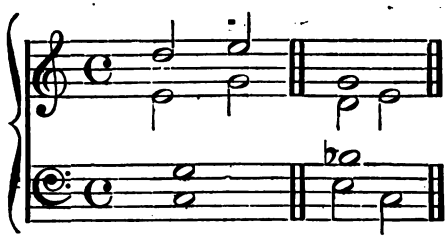
100. The major ninth is so much less discordant with the root, and the other sounds, of a major triad that it may be treated more freely than the minor ninth. Although the combination, in the inner parts, (96) of a discord and the note in lieu of which it stands (77) is seldom very pleasing the major ninth may, without any great harshness, be used while the octave of its resolution is held in any lower, or even any higher, part. (97)

101. The root is, sometimes, held in the lowest part while the discord is resolved upon its unison. Or the part having the root is, even when the ninth is used thus closely to it, free to skip.

From Mendelssohn's "St. Paul."

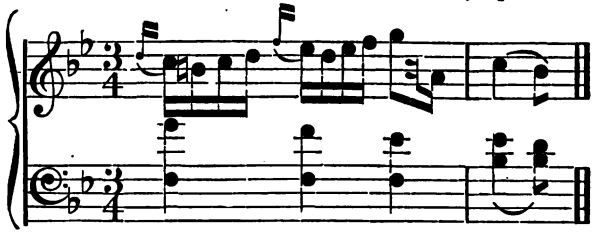


102. A part having a major ninth—being fully as near to the tenth as to the eighth—may rise a tone, or a semitone, to resolve the discord.

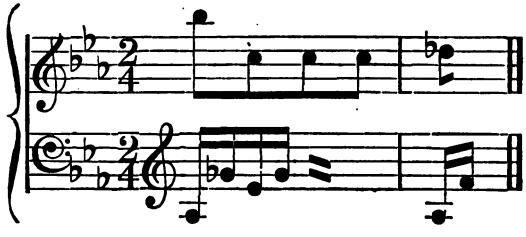


Or it may skip down a seventh, to the leading note. (99)

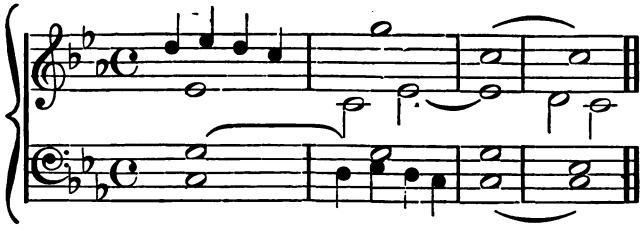
From Beethoven's P. F. Sonata, in B Flat, Op. 22.



From Beethoven's P. F. Concerto, in C Minor, Op. 37.

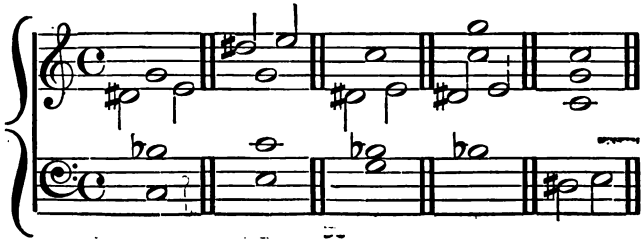


103. The major ninth may be freely used with a minor chord; or resolved upon the minor tenth.

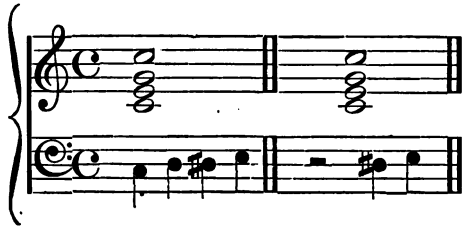


104. The augmented supertonic is very slightly discordant with the root upon which it is taken: indeed, upon a keyed instrument, the same note serves for the augmented second, and for the minor third, of the enharmonic scale. (29)

The chief dissonances are formed by the chromatic sound with the fifth of the chord, and with the third,—in lieu (77) of which it stands. The augmented supertonic may, therefore, be agreeably combined with the root, at any distance; and is often called "an augmented second."

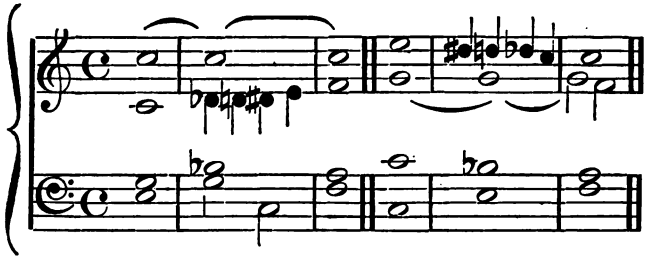


105. There is as much, and precisely the same, objection to the combination of an augmented ninth with the third of the chord—upon which it resolves—as there is to the doubling of the third of any major chord; (15) and the effect is so extremely harsh when any discord, rising a semitone to its resolution, is heard in a lower part than the sound, or the octave of the sound, to which it naturally proceeds that the third should not be used above the augmented ninth (or second) unless—like a "pedal" note (143)—it is continued from a previous harmony, and the chromatic discord is taken very briefly, as a passing note, or a kind of appoggiatura in a more florid part.

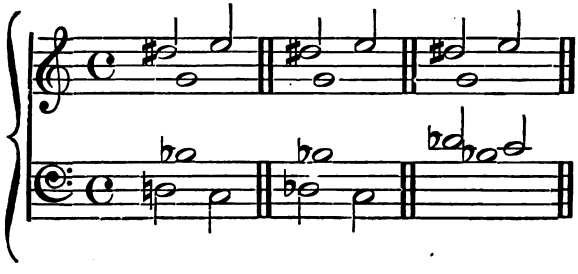


106. In accordance with par. 83, a florid part may, while the root of the harmony remains unchanged, pass from the minor, through the major, to the augmented ninth;

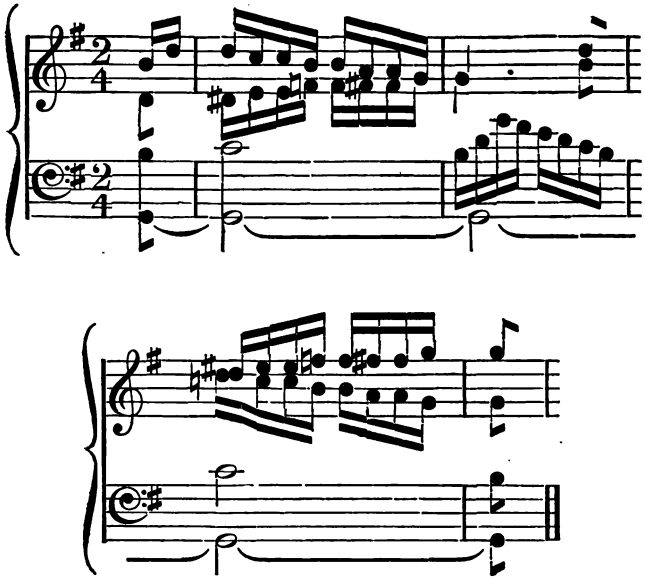
and the resolution of the last discord will suffice for the whole.



107. Two notes of the same name, but of essentially different pitch, may be used together, if their natural resolutions are in contrary motion. Thus, the augmented may be combined with the major, or more agreeably with the minor, ninth. Such a combination is, however, extremely harsh unless the rising discord be taken above the falling one.



From Haydn's Symphony, in D, No. 1.



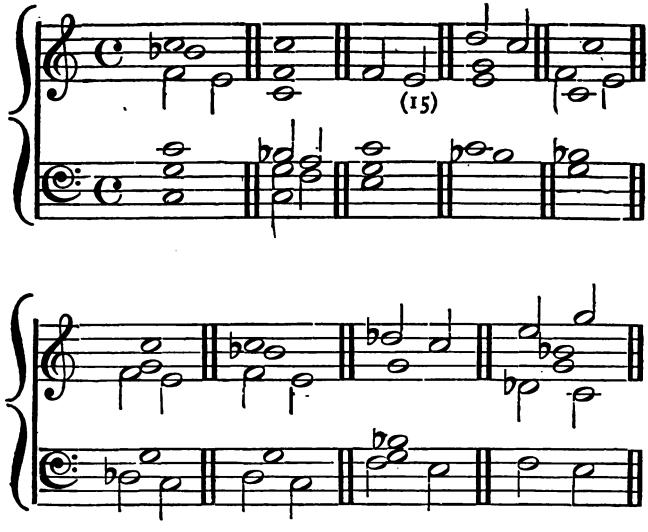
108. A ninth may be held, or enharmonically (31, 72) changed; or the part may move, in either direction, not further than the natural resolution of the discord, (*i.e.*, from a minor, or an augmented ninth upwards, or downwards, a semitone; or from a major ninth a tone) to become any sound in the following chord. (*See large table of resolutions.*)

Chapter XI.—Elevenths.

109. In accordance with the general mode of naming discords (72) the sixth, or seventh, sounds of the chromatic scale are, when added to the whole, or part, of the tonic triad, known as a perfect, or an augmented, eleventh.

Upon any proper root, (22, 37, 38, 39, 40) with, or without, any other discords, one of the elevenths may—without necessarily (145) involving modulation—be used. Any such combination may be inverted in any manner; and resolved on the same, or a following, root.

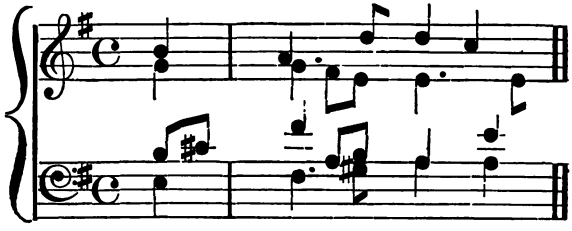
110. The perfect eleventh (simply, the fourth of the diatonic scale) is, of course, not discordant with the root; or with the minor seventh, when that is included in the chord. With the fifth it forms a dissonance of the same, comparatively, mild character ($\frac{8}{9}$) that the minor seventh does with the eighth. (28)



111. The combination of a perfect eleventh with a major third from the root—beside being objectionable on account of the doubled third (15, 77) to which it practically amounts —is so extremely discordant that, in any inner part, the third should be "prepared," (74) *i.e.*, continued from the preceding harmony; (143) and be resolved, like a discord, before the part having the eleventh moves.

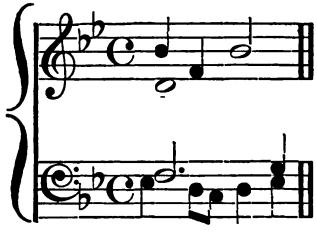
112. The least disagreeable mode of continuing a third, while an eleventh is resolved upon one of its octaves, is to place it in the bass. (96)

From the Quartet in Mendelssohn's "Lauda Sion."

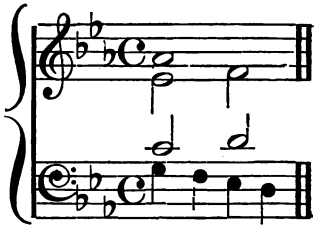


To use an eleventh in the bass while, in an upper part, some octave of its natural resolution is held causes a considerably more acute dissonance.

From Bach's "Art of Fugue."

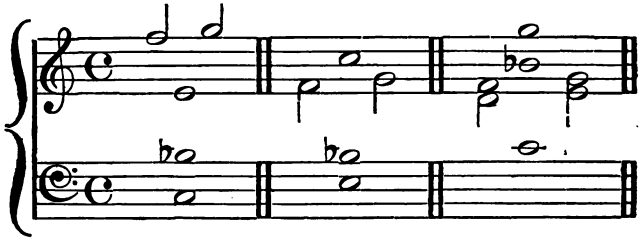


From "St. Ann's" Fugue.



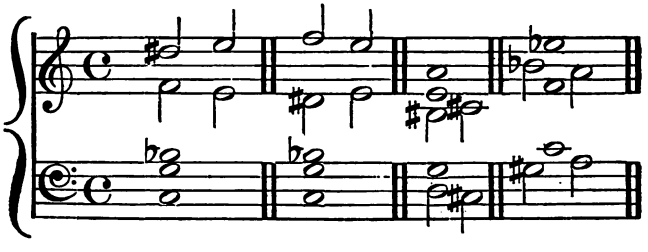
113. When a perfect eleventh rises to the twelfth, and some octave of its natural resolution is held in any other part, the dissonance is, of course, very acute: but the resolution

is somewhat more satisfactory than when it gives a doubled major third to the chord.

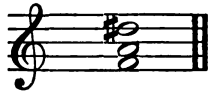


The fifth from the root may be sustained in any part; and at any distance from the discord: just as the eighth may be held while a minor seventh is resolved upon it. (87)

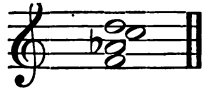
114. Combined with an augmented ninth from the root a perfect eleventh forms the interval of an augmented sixth, or of a diminished third, more or less removed. Both the discords naturally resolve upon the third of the chord.



One form of these combined discords is sometimes called an "Italian sixth."

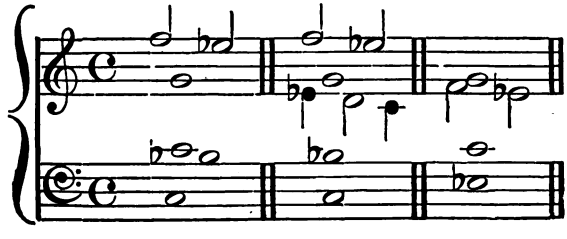


115. The third inversion of a chord containing a minor seventh, a minor ninth, a perfect eleventh, and a fifth, from the root



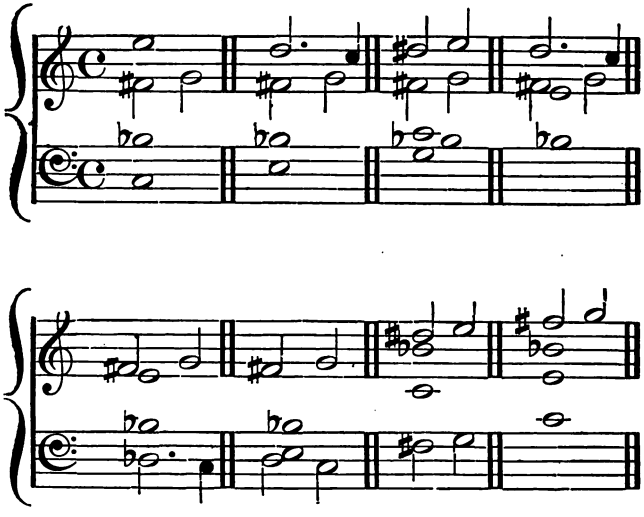
is, sometimes, called "the chord of the added sixth." (93)

116. A perfect eleventh may fall a whole tone to its resolution, whether the root of the chord be changed or not. An eleventh does not combine with a minor third from the root so harshly as with a major third: nor is a doubled minor third—resulting from the resolution of the discord—so objectionable as the duplication of the major third, or "leading sound" (24) of the chord.



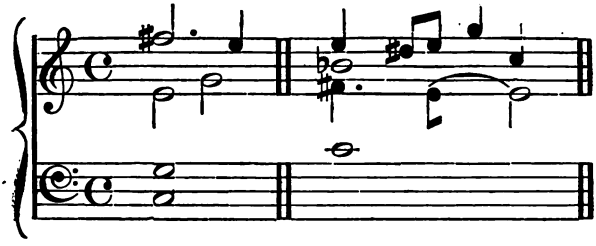
117. The augmented eleventh, on a major, or minor, chord, forms a dissonant combination with most of the other sounds.

Naturally it resolves on the twelfth: and any octave of its resolution may be held below the discord.

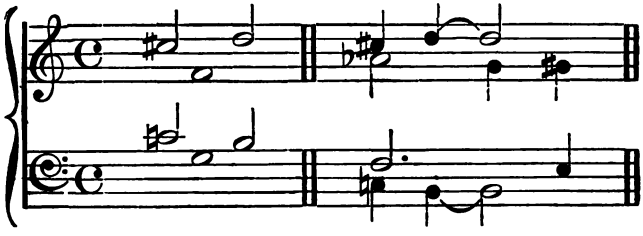


When the octave of the resolution of an augmented eleventh is taken in any part above the discord it should be treated like the third, when used above an augmented ninth. (105)

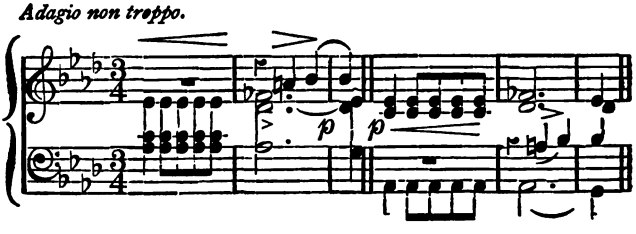
118. An augmented eleventh may fall a whole tone to its resolution.



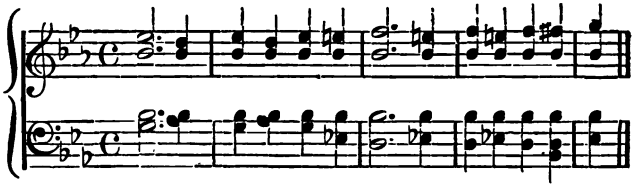
119. Similarly to the possible combinations of rising, and falling, ninths (107) may perfect, and augmented, elevenths be used together.



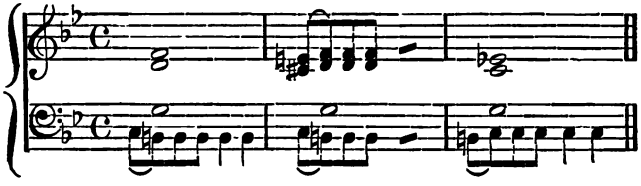
From Mendelssohn's Quartet, in E Flat, Op. 44, No. 3.



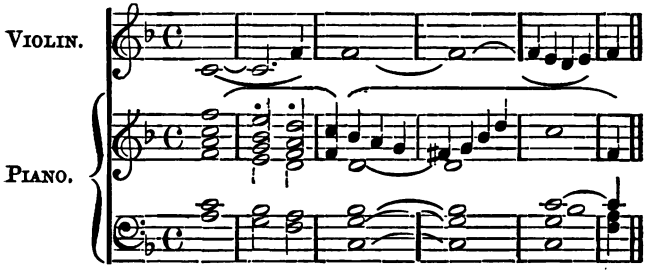
From the *Finale* of Haydn's Grand Symphony, No. 8.



From the *Allegro Vivace* of Haydn's Symphony, in B Flat, No. 9.



From Gade's Duet, Op. 21.



120. The possible resolutions of the elevenths are similar in principle to those of all other discords. The discord may remain, or be enharmonically (31, 72) changed; the perfect eleventh may rise or fall a tone or a semitone; or the augmented eleventh may rise a semitone, or fall a tone or a semitone; to form any sound in the following chord. (*See large table of resolutions.*)

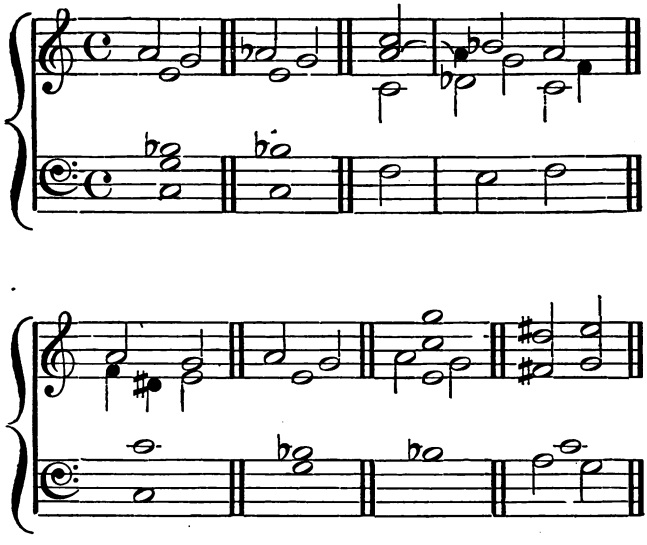
Chapter XII.—Thirteenths.

121. The ninth and tenth notes of a chromatic scale are consonant with the tonic; but discordant with some sounds of its triad. The minor sixth, or minor thirteenth—as it is called (72) when used upon the tonic—is acutely dissonant with the major third, and the fifth, of the triad; and with any of the major, or augmented, discords of the root. The major sixth (or thirteenth) combines harshly with the minor third of the triad; or with any minor discords.

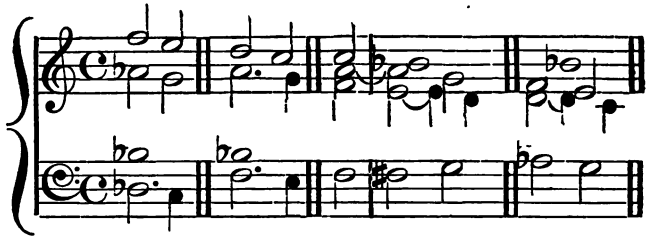
122. Upon any proper root (22, 37, 38, 39, 40) sounds thus related may be used without, necessarily, involving change of key: although many of the possible resolutions of the discords (*see large table of resolutions*) suggest striking, and comparatively novel, modulations.

123. When resolved on the same root the natural tendency of either discord is to the twelfth. The combination of a thirteenth with the fifth, or any of its octaves, is

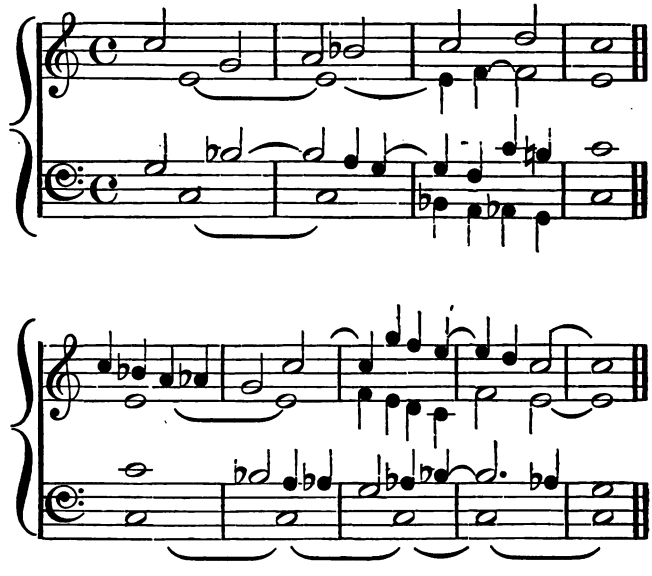
characterized by much the same kind, and degree, of harshness, as that attending the simultaneous use of a minor, or major, ninth with some octave of its natural resolution. (96, 97, 98, 100, 101)



When a thirteenth and a ninth are used together their resolutions should not be exactly simultaneous. (81) When both the discords are in outer (78) parts the retardation of one of the resolutions is not a sufficient avoidance of disagreeable consecution.

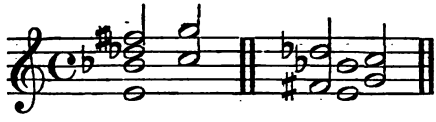


124. A part may rise from either thirteenth to the minor fourteenth (seventh;) or fall from the fourteenth to a thirteenth.

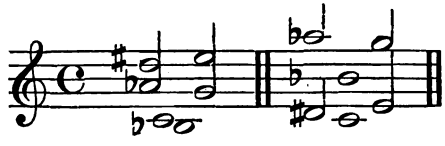


125. The combination of a minor ninth and an augmented eleventh produces the

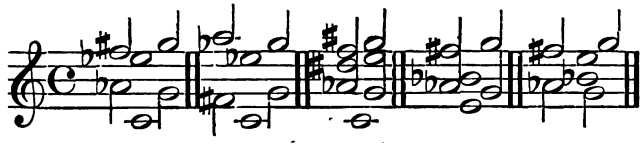
interval of an augmented third; or its inversion, a diminished sixth.

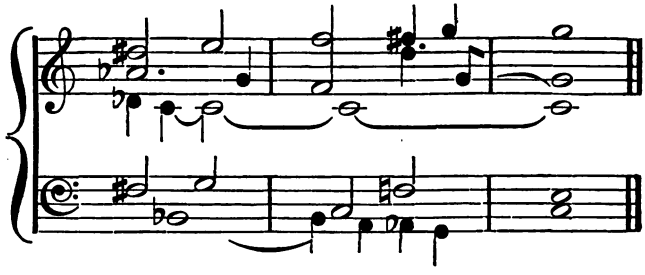


An augmented ninth and a minor thirteenth, combined, form the interval of a doubly augmented fourth; or its inversion, a doubly diminished fifth.

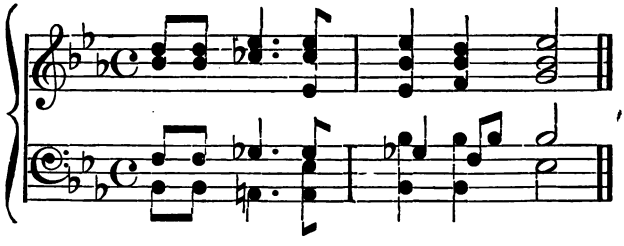


An augmented eleventh and a minor thirteenth, used together, form the interval of an augmented sixth; (114) or its inversion, a diminished third.

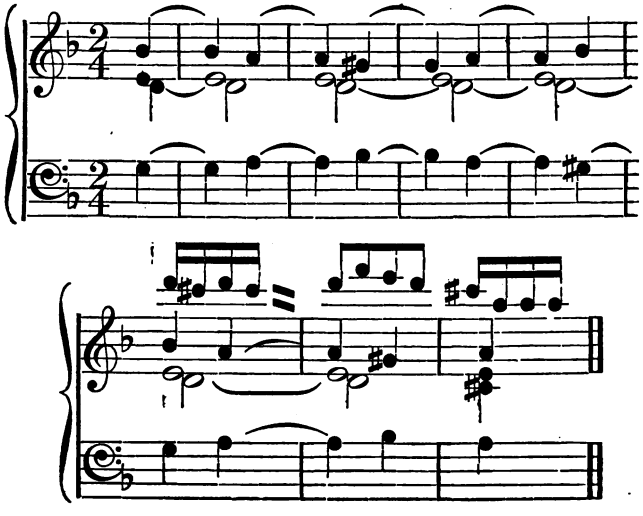




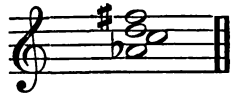
From John Weldon's Six-voice Anthem, " Hear my crying."



From the *Scherzo* in Mendelssohn's Quintet, Op. 18.

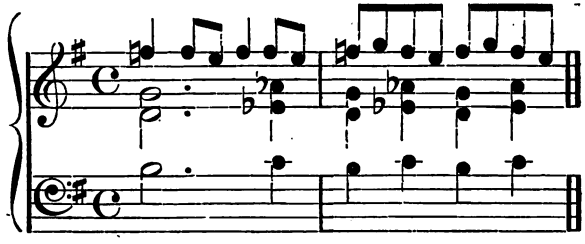


With the root, and major ninth only the combination is, sometimes, called a "French sixth."



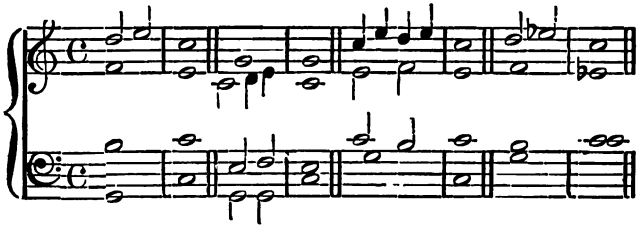
126. Any combination of the two thirteenths (107, 119) is rather harsh; especially when the minor is above the major discord.

From Haydn's Symphony, in G, No. 5.

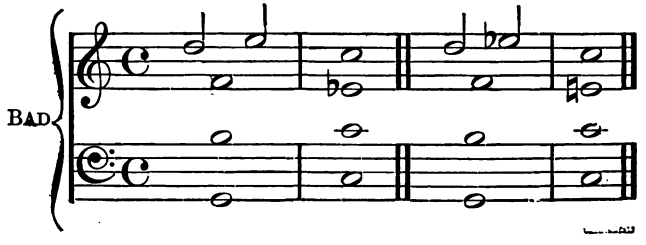


127. The possible resolutions of the thirteenths are, in all respects, similar in principle to those of other discords. Either thirteenth may make its natural progression, or move as pointed out in par. 124, or remain (under its own name, or by enharmonic change) to form any part of the next chord, either consonant, or dissonant, with the root. (*See large table of resolutions.*)

128. Not unfrequently a part appears (91, 140) to skip from a thirteenth upon the dominant to the eighth of the tonic chord.



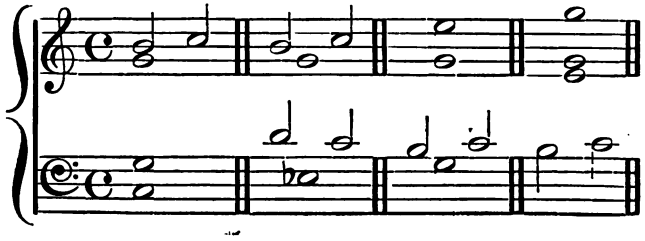
Really, the ear accepts the harmony in the last part of the first bar of each of the above examples as derived from the tonic ; (90, 129) and would strongly object to the "false relation" (54) which would be caused were it followed by a tonic triad of a different mode.



Chapter XIII.—Major Sevenths.

129. A major seventh from the root may, without necessary modulation, (145) be added to any major, or minor, triad; with, or without, any other discords. The combination may be inverted in any manner; and resolved on the same, or another, root. When the third of the chord is consonant with all the sounds used with it the part containing it is unrestricted in its progression.

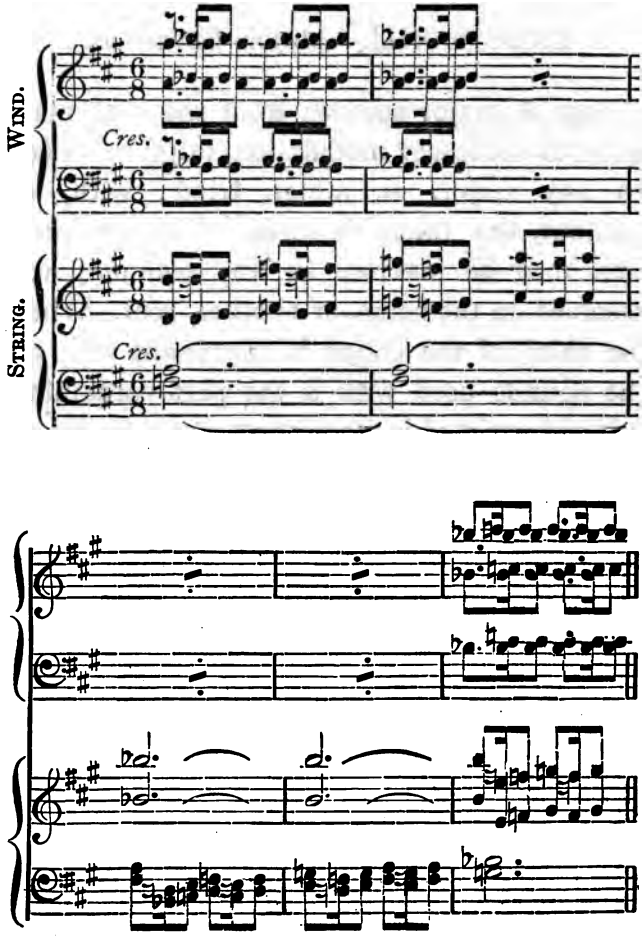
130. When resolved upon the same root the part having the seventh naturally rises to the eighth of the chord. The octave of the resolution may be held in any part below the discord.



I

The inversion of such a combination is extremely harsh.

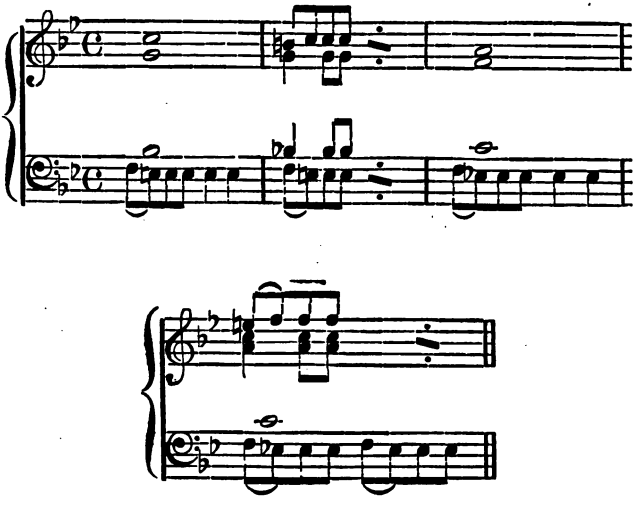
From Beethoven's Symphony in A, No. 7.



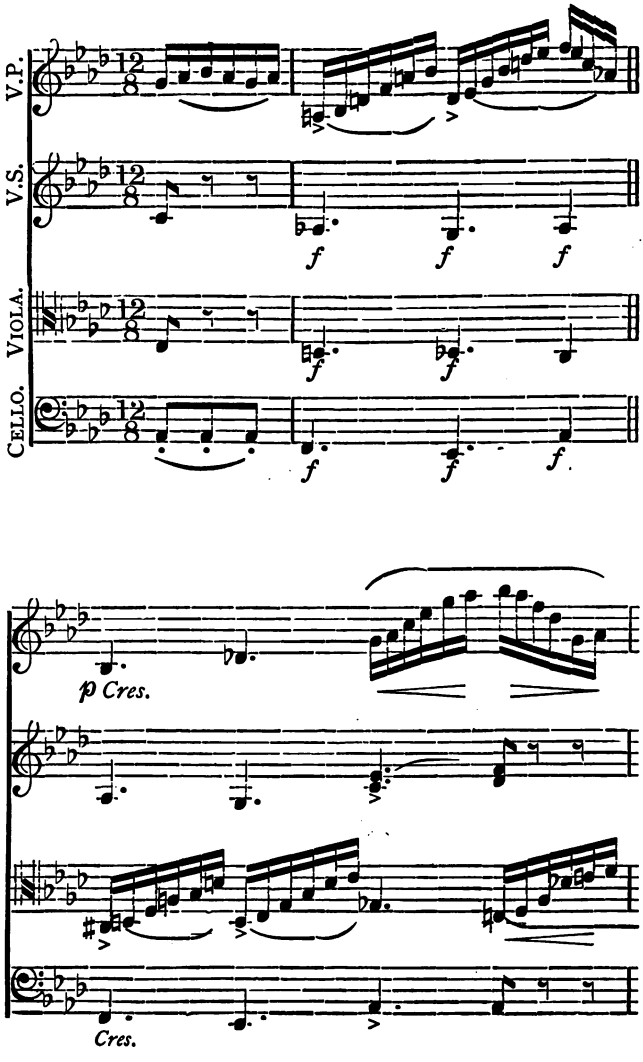
131. The first inversion of a minor triad, with a major seventh added, is—like the second inversion of a chord containing an augmented ninth (104) from the root--often called a "chord of an augmented fifth."

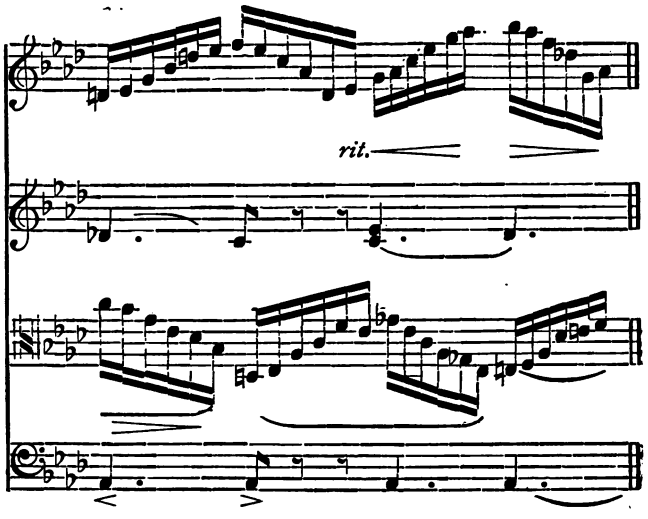
132. The two sevenths (86, 129) may be used in the same chord: (107, 119, 126) the combination being less harsh when the major is above, rather than below, the minor discord.

From Haydn's Symphony in B Flat, No. 9.

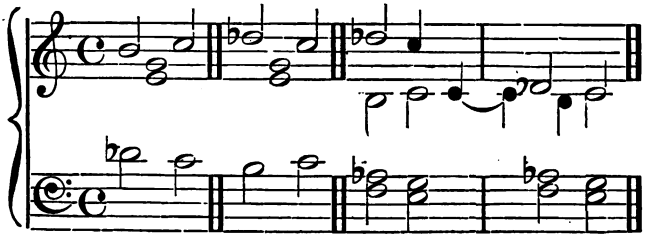


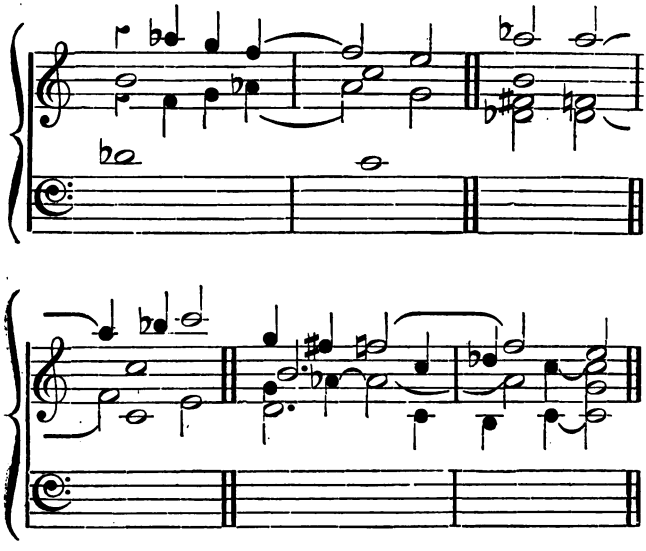
From Schumann's Quartet in F, Op. 41, No. 2.





133. The combination of a minor ninth (96) with a major seventh produces the interval of an augmented sixth; (114, 125) or its inversion, a diminished third, or tenth.



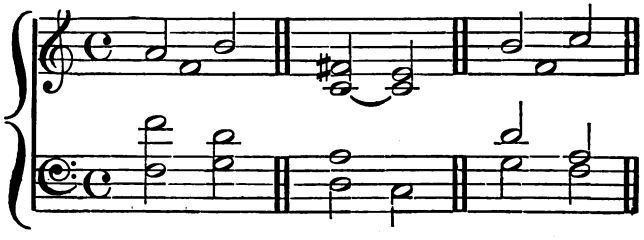


134. The resolutions of a major seventh are entirely similar, in principle, to those of other discords. (*See large table of resolutions.*)

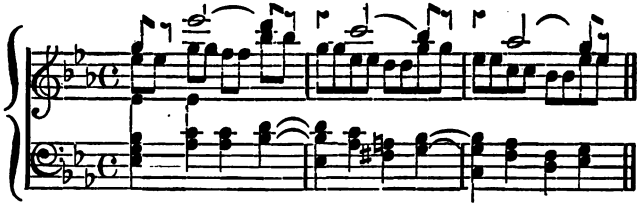
Chapter XIV.—General Laws of Discords.

Section B.

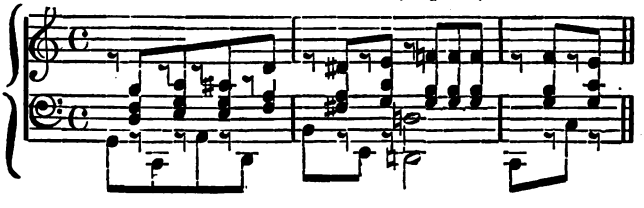
135. By the use of discords the progressions of the parts to, and from, remote chords (40) are much simplified; and the connection between consecutive chords may be materially increased. (45, 47)



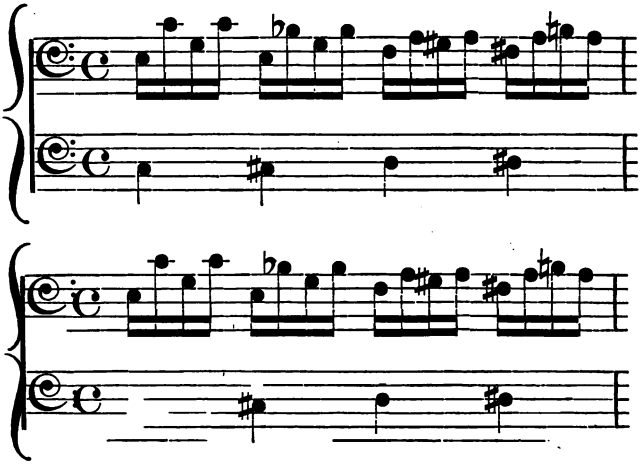
From Mozart's Overture to "*Zauberflote.*"



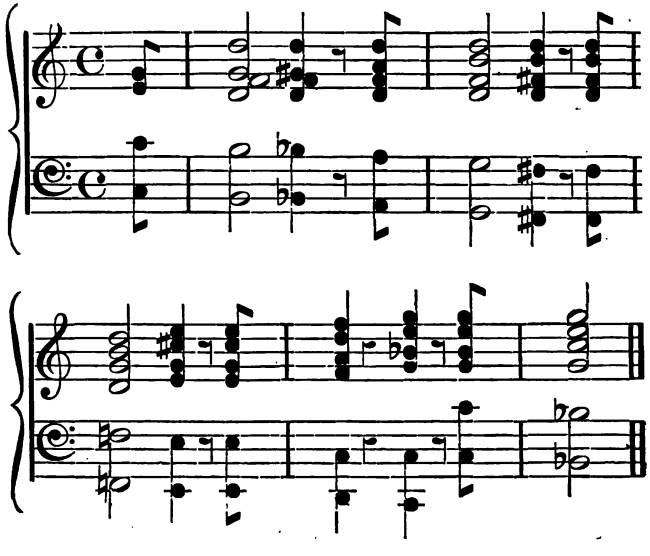
From Beethoven's P. F. Sonata, Op. 14, No. 2.



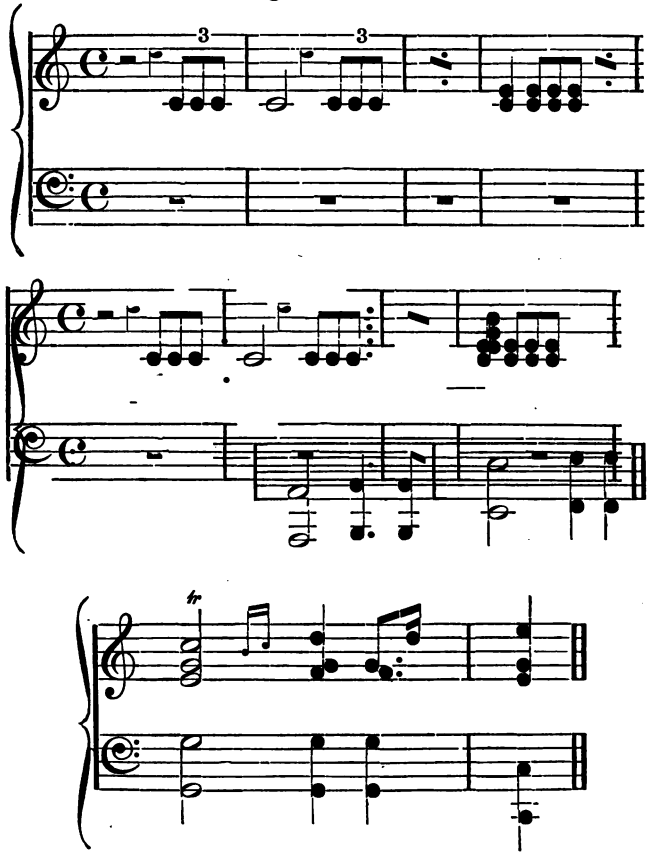
From Beethoven's *Rondo Grazioso*, Op. 51.



From Beethoven's 33 P. F. Variations on a Waltz by Diabelli, Op. 120.



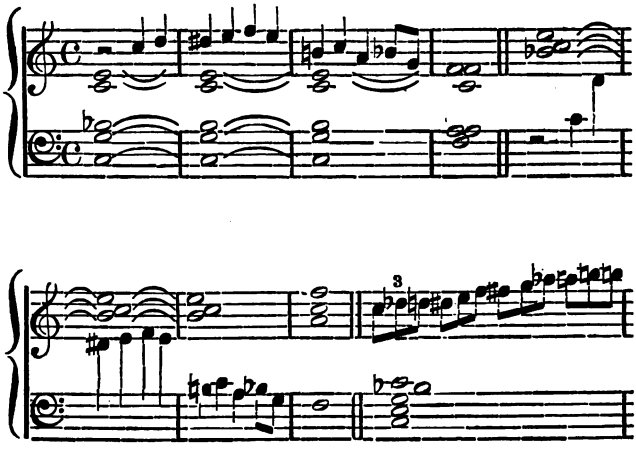
From the Wedding March in Mendelssohn's "*Midsummer Night's Dream.*"

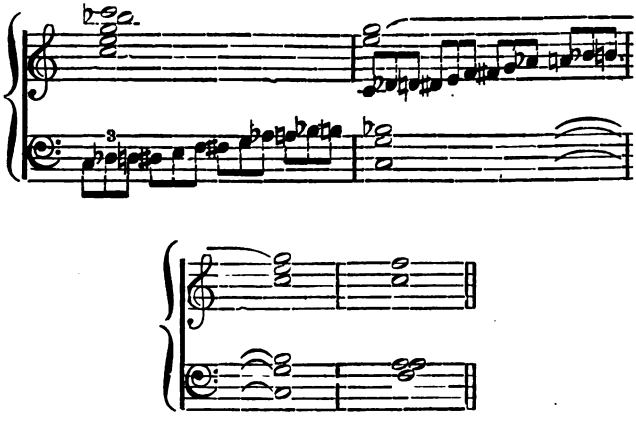


See, also, the examples of "Pedal Sounds," Chapter 15.

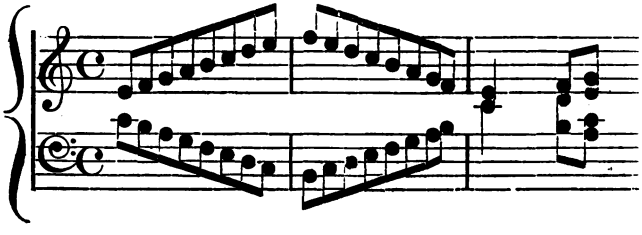
136. While a chord is held one of the parts may wander from concord to concord, through any discords of which the octaves of the

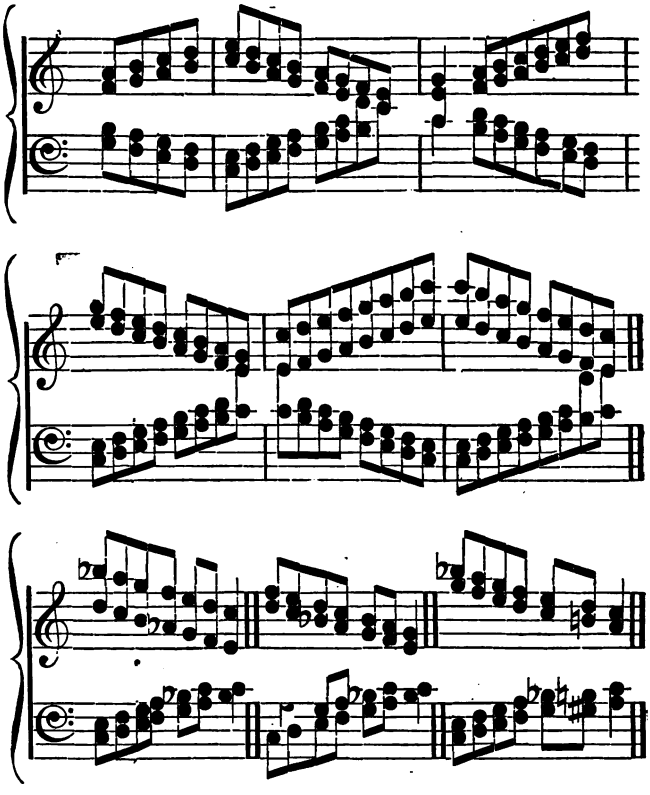
resolutions—or the octaves of the notes to which they proceed—are sustained. In this way, while a major third from the root is held the fourth sound of the chromatic scale is properly written as a sharpened supertonic; (104) and may, like the perfect eleventh, resolve on the tenth: or, while a minor third from the root is held the major ninth may resolve on the minor tenth: or the major thirteenth may proceed to the minor fourteenth while the octave of the latter sound is held, above or below: or the major seventh may proceed to the eighth while the minor seventh is held.



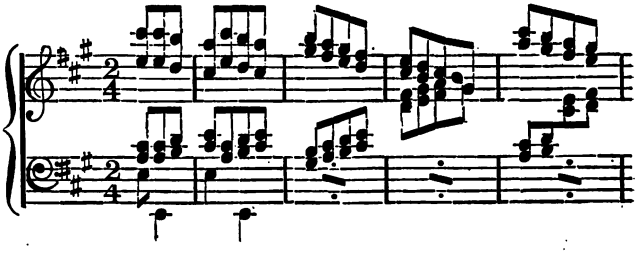


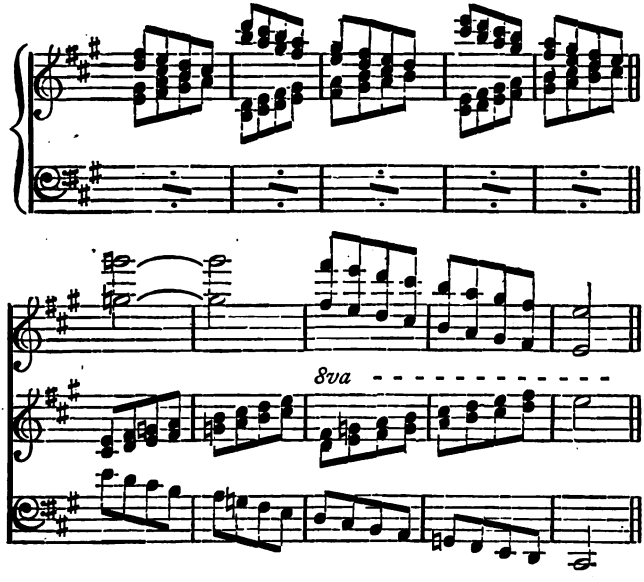
137. Starting from a concord, or a discord taken according to rule, two, or more, parts may proceed by contrary motion until they arrive at another consonant, or properly arranged dissonant combination. Progressions of this kind are, however, very harsh whenever, in two or more consecutive chords, discords, and the octaves of their resolutions are taken together contrary to ordinary rule.



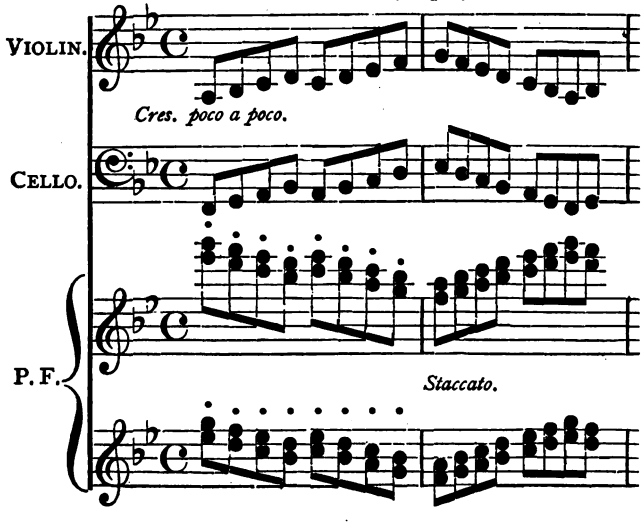


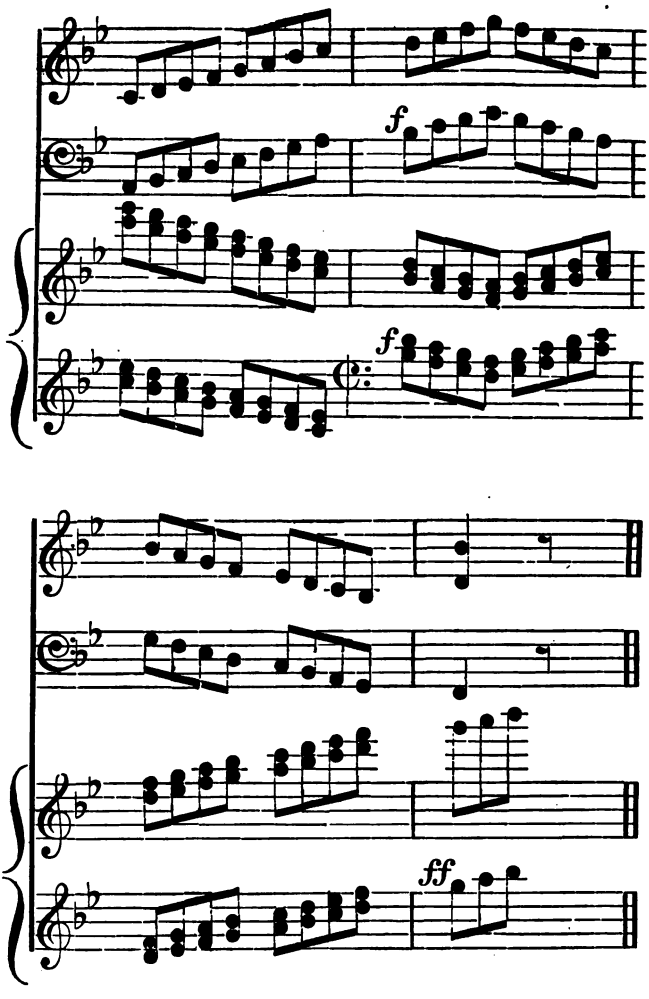
From Beethoven's Symphony, in A, No. 7.





From Beethoven's Trio, Op. 97.

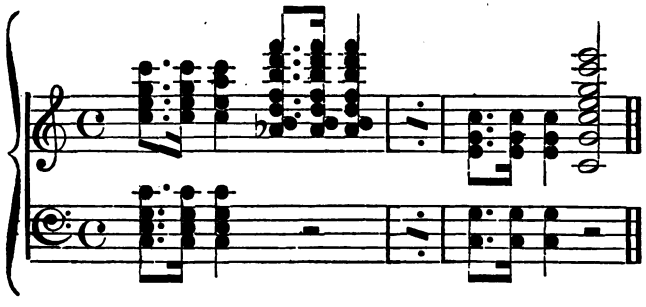




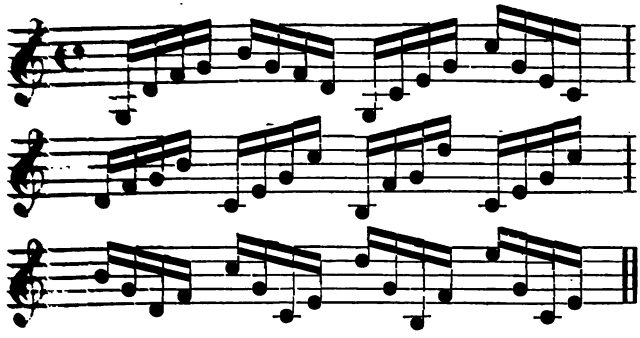
138. Dissonant notes may be combined with a triad, or sounded alternately with

it; the resolutions being deferred for a considerable time. Usually, in orchestral compositions, these different strata of the harmony are assigned to instruments of contrasted kinds of tone; so that the ear may readily follow the progressions of the different parts.

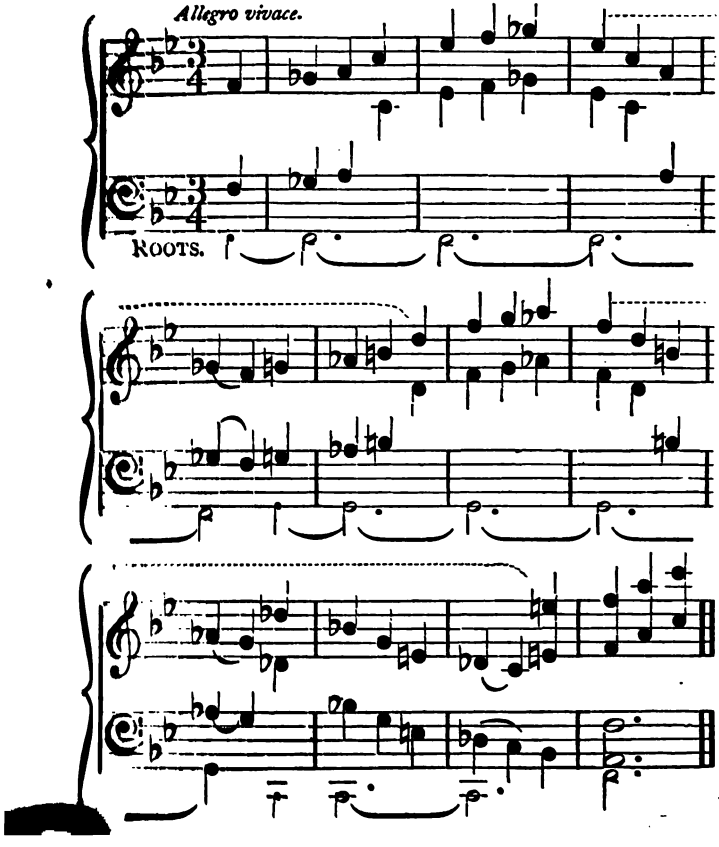
From the Symphony of Mendelssohn's "*Lobgesang*."



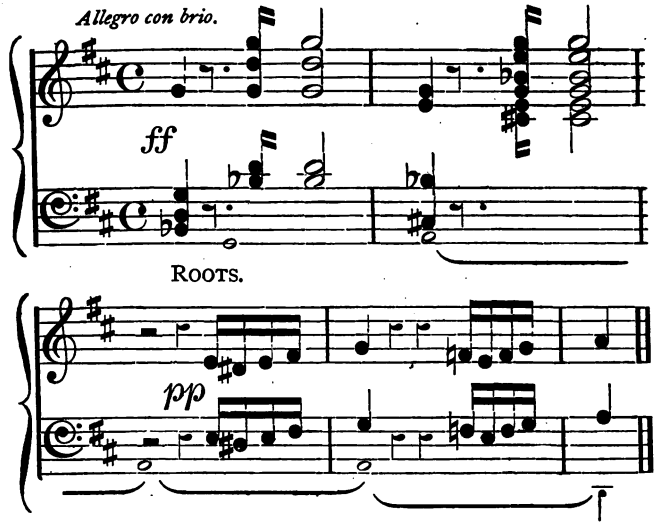
139. As, in a series of triads distributed in *arpeggi*, proper progressions of the different parts should be maintained, (50) so, when chords containing dissonant sounds are similarly treated, the ear is often content to wait for the resolutions of the discords till they occur regularly in the rising, or falling, series of sounds; or till the pattern of progression is changed, and a consonant triad resolves the discord contained in the last *arpeggio*.



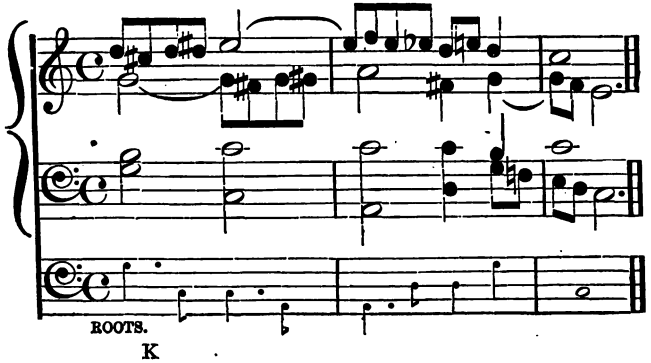
From the "*Minuetto*" in Beethoven's Symphony, in B Flat, No. 4.



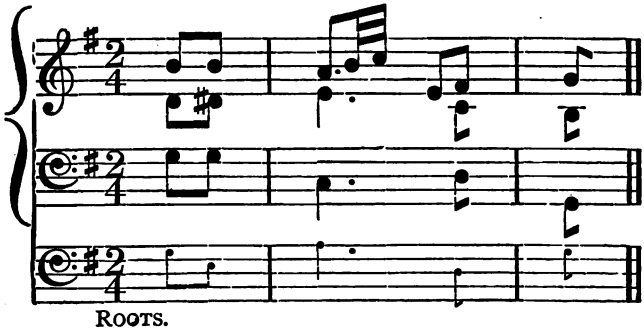
From Beethoven's Symphony, in D, No. 2.



140. The true derivation of a chord is, often, not apparent (91) without some little examination. The chromatic alteration of one sound (especially the fifth from the old root) involves an entire change of relation; of which it is, frequently, the only sign.

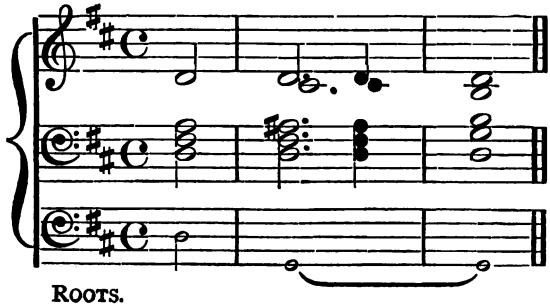


From Beethoven's "*Air Varied*," in G.



ROOTS.

From No. 5, in Mendelssohn's "*Oedipus*."



ROOTS.

Chapter XV.—Pedal Sounds.

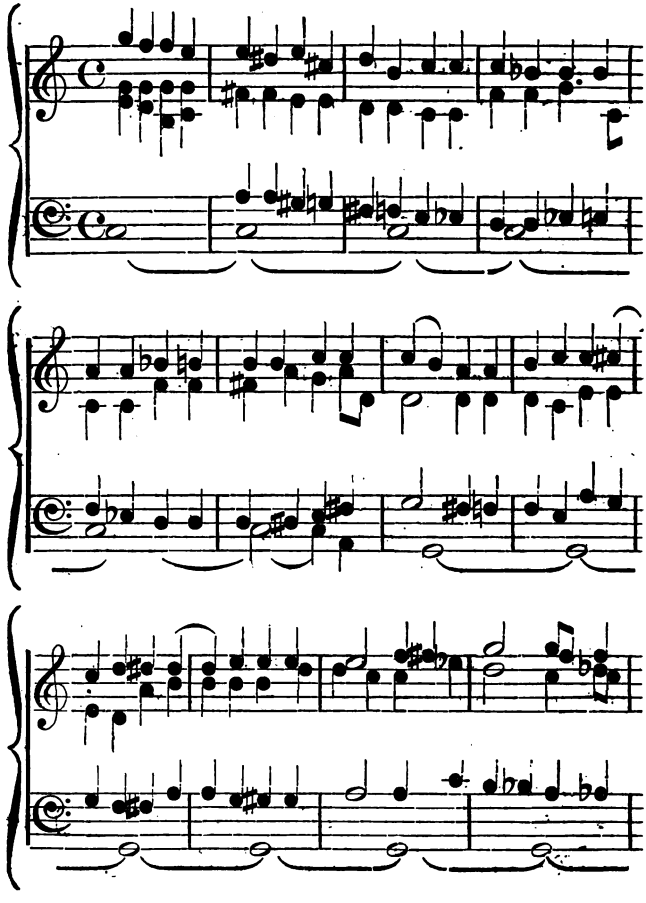
141. Not only may any sound of a chromatic scale (28) be used over the root, or foundation, of the series; but so powerful, and pervading, is the influence of key-relationship, that the tonic, or its principal consonance the dominant, may be held in the lowest part while any chords belonging to the key are added: or they may be combined as a double "pedal," underneath changing harmonies.

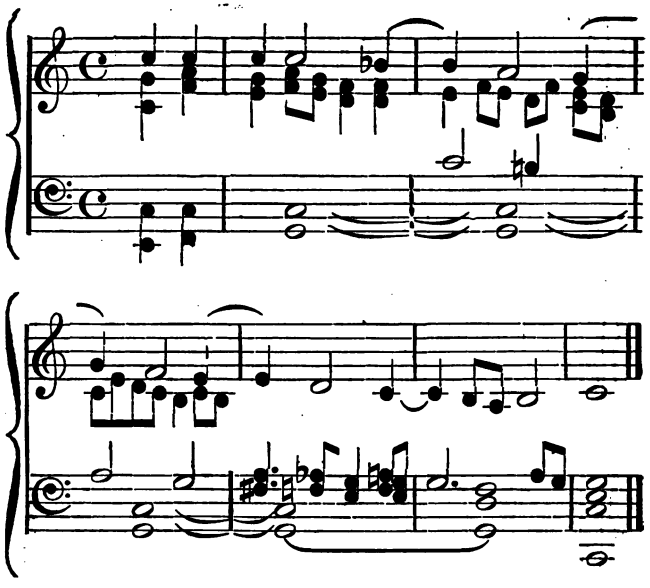
Generally—because a fifth is a more satisfactory consonance than its inversion—but not necessarily, the tonic is, when a double pedal is used, placed in the lower part.

142. The first and last chords over a pedal note must be properly related; either as concords, or as discords belonging to its own chromatic scale. In the intermediate harmonies any chord of the key may be used; without reference to the sustained sound, provided the lowest of the moving parts forms a proper and strictly progressing bass to the changing harmonies.

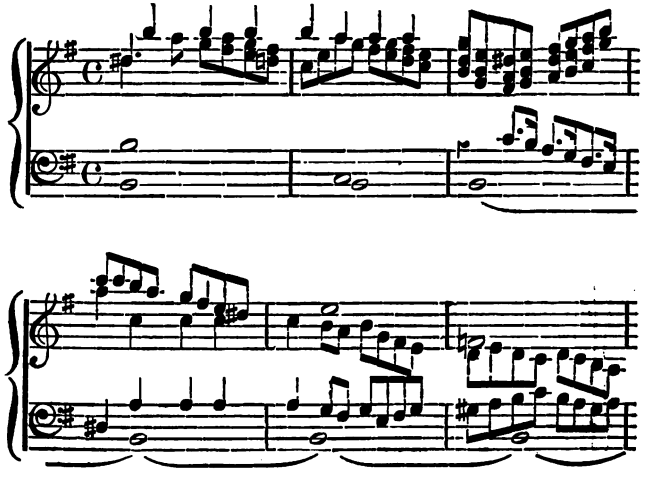
Thus, it is not "false relation" (54) to employ, upon a tonic pedal, the augmented

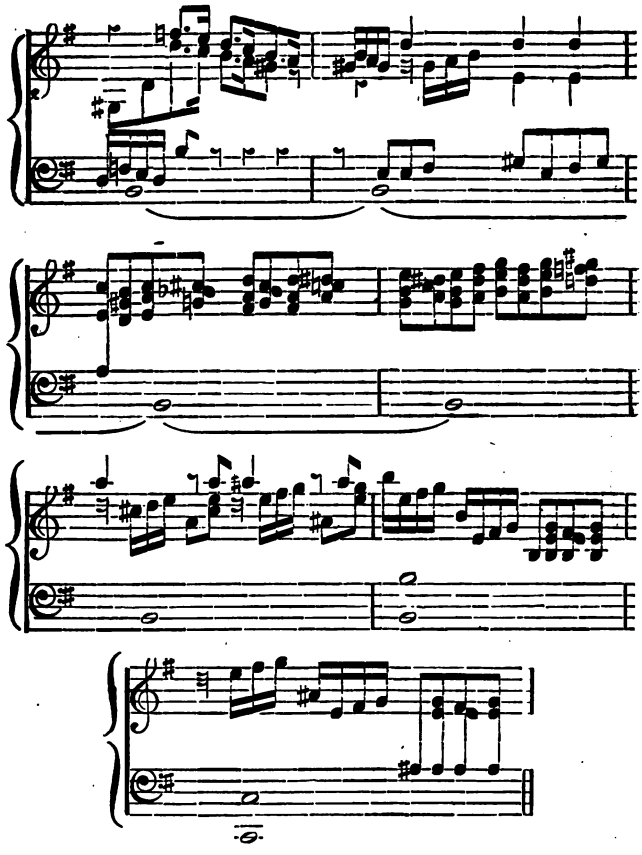
octave as the major third of a chord upon the sixth of the diatonic scale, or as any discord upon a proper root: nor, upon a dominant pedal, to use the augmented fifth of the scale in similar ways. Of course many of these combinations are very harsh.



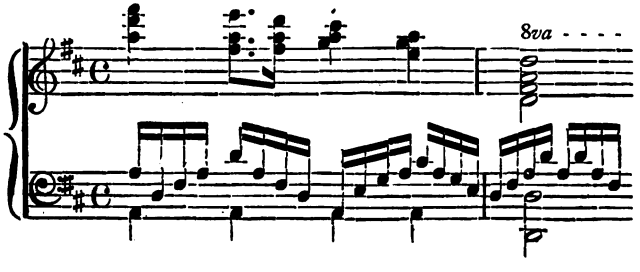


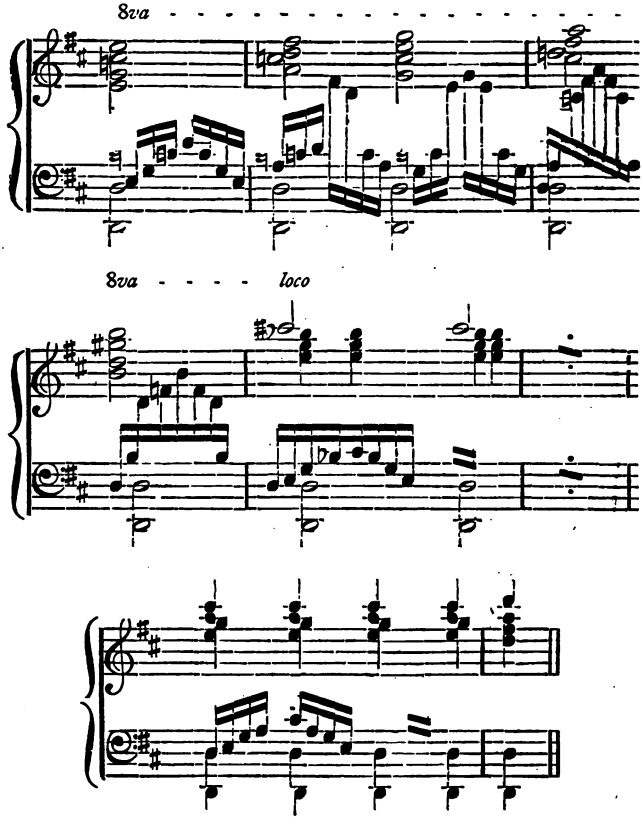
From Mendelssohn's P. F. Fugue, in E minor.



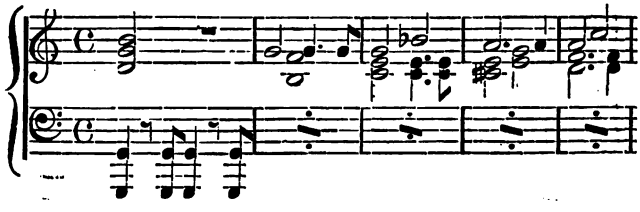


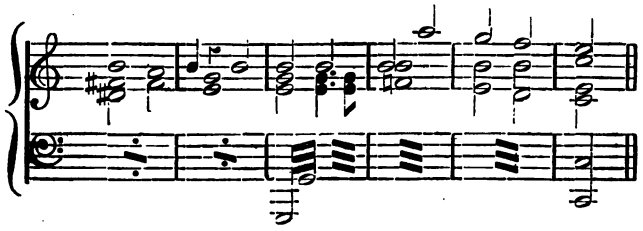
From Mendelssohn's Overture to "*Athalie.*"



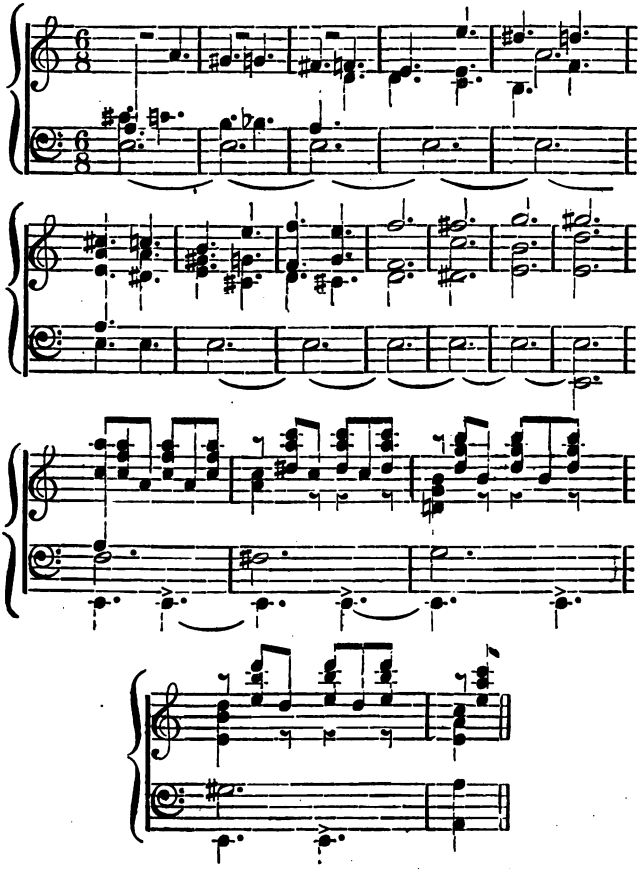


From "*Athalie*," No. 1.

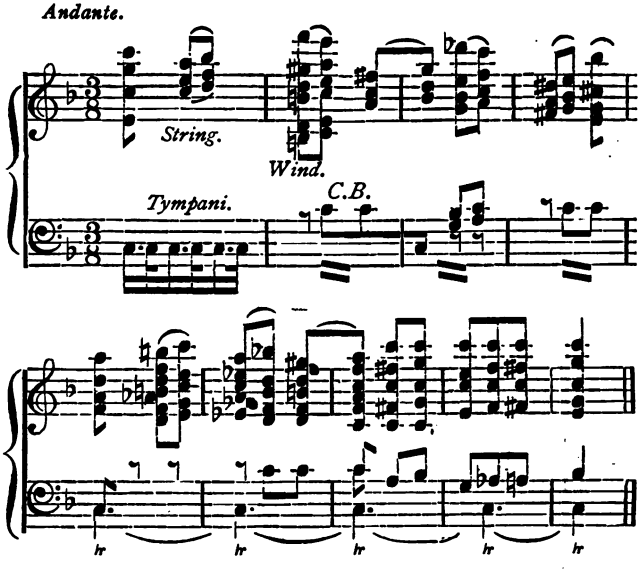




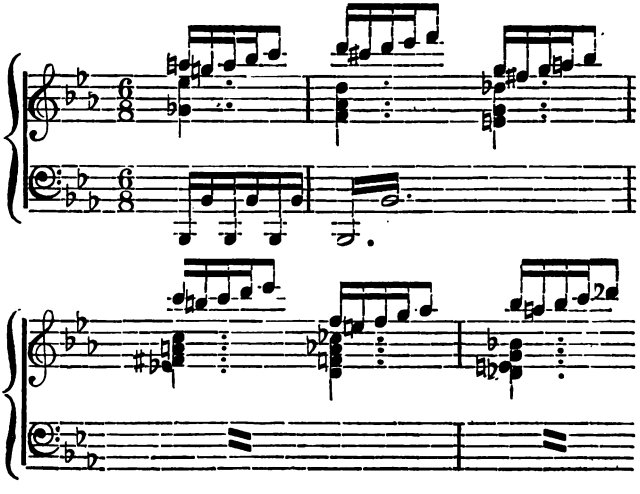
From Mendelssohn's "*Walpurgis Nacht*," No. 6.

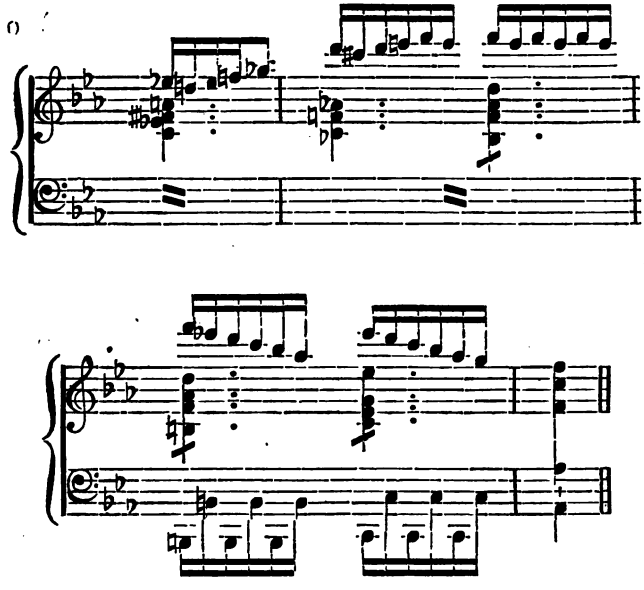


From Beethoven's Symphony, in C, No. 1.



From Beethoven's Quintet, Op. 16.

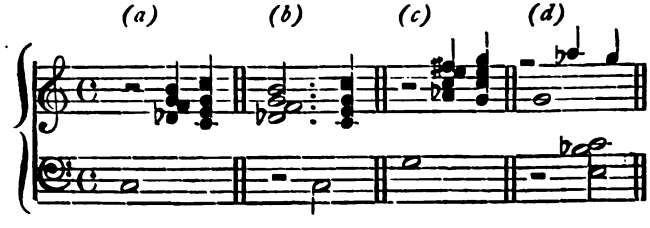


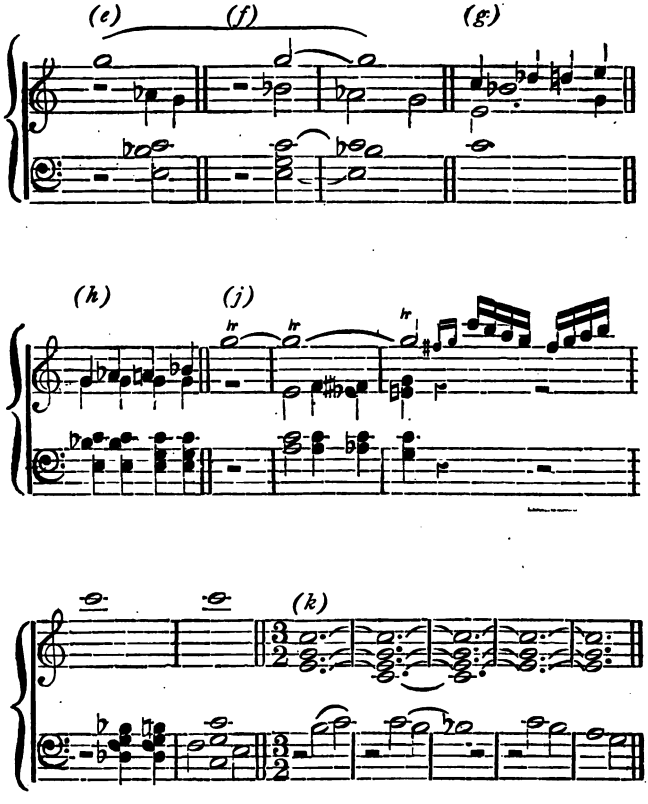


143. What is often called an "inverted pedal" is nothing more than a note held in one of the upper parts, while various discordant combinations belonging to its own chromatic scale are used underneath. Any chords not strictly derived from the sustained note have an extremely harsh effect when produced by longer, and more sonorous, waves. But when the root, or fifth, of a chord has been separately announced, or is continued from the previous chord, any discords naturally resolving upon the octave of either of those

sounds may be added: (*a*, *c*, *d*, *e*, *f*, *j*, *k*,) or another part may proceed from the unison, or octave, of either of those sounds to the discords a semitone above, or below; and made to diverge, by semitonic steps, through other discords of the same number—as from a minor through a major, and an augmented ninth; or from a major, through a minor seventh (*g*, *h*, *k*,)—or through another discord of a different number, at the distance of a tone—as from a major seventh, through a major thirteenth—(*k*) until the part reaches a sound consonant with the sustained note. Or the mode may be reversed, and the root, or fifth, of a chord be added, in a forcible manner, (*b*) to any combination of discords arranged as already described.

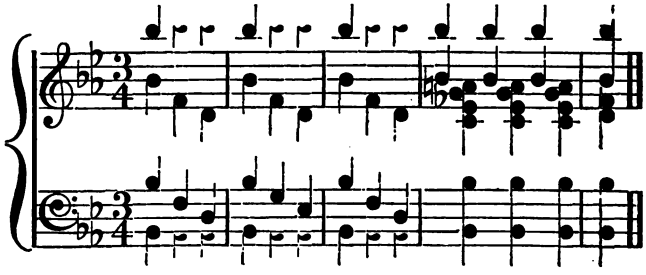
A minor ninth, and a major seventh, (forming, together, the interval of an augmented sixth, or a diminished tenth) may be thus combined on the tonic; or the minor thirteenth, and the augmented eleventh, upon the dominant. (133, 125)



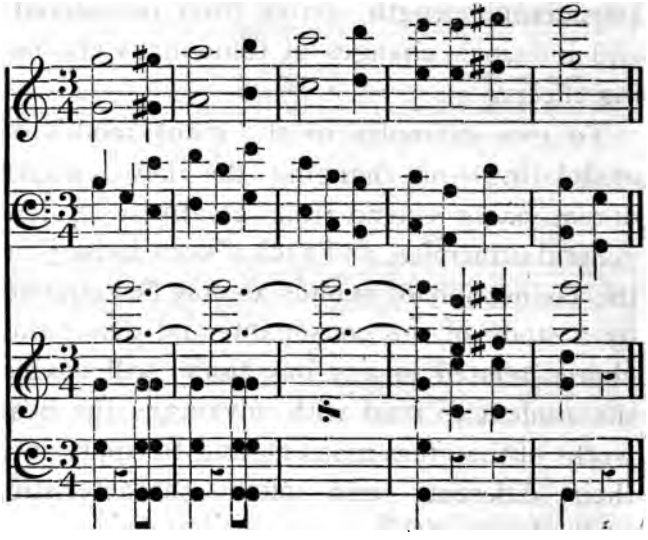


144. In orchestral compositions the pedal-note may be repeated in several octaves, while other instruments fill in the changing harmonies: the effect being to add brilliancy and pungency, without diminishing the solidity, and firmness, of the sustained sound.

From Beethoven's "*Sinfonia Eroica.*"



From Beethoven's Symphony, in C, Op. 21.



Chapter XVI.—Modulation.

145. Although the number of chords belonging to any key is so large, and productive of such vast variety, musical compositions, of any considerable length, derive from occasional, and judicious, changes of tonic many charming effects.

To give examples of the many modes of modulating—or changing the key—would unreasonably extend this treatise. A few general principles, and such a keen feeling for the connection of sounds as may be acquired by a study of the consonant, and dissonant, chords related to any one tonic, will enable the student to read with advantage the best works of the great masters, and to appreciate their different, and often characteristic, methods of writing.

146. The relationship of keys is precisely like that of single sounds, and of chords.

Modulations to the key of the dominant, or of the subdominant, to the minor modes of the mediant, or the submediant, (22) are com-

mon; because they involve only slight alterations of the original scale; and may be easily, and agreeably made, and unmade, without the use of consecutive chords which, having little connection, startle the ear by their unexpected progressions.

The influence of the dominant harmony is so great in determining the tonality that, in the construction of a long movement, considerable portions should be written in its key; and especially the section leading to the final resumption of the tonic scale.

In the "sonata" form of composition the most important of the secondary themes, or subjects is, generally, in movements in major modes first, and in movements in minor modes last, given in the scale of the dominant.

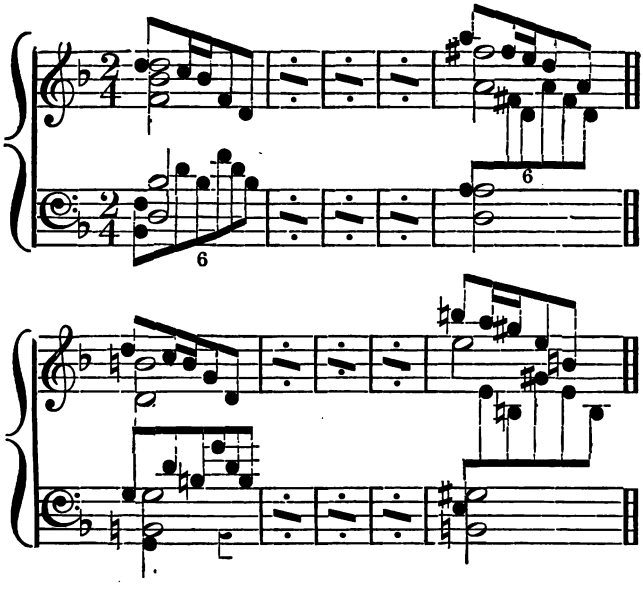
In the "fugal" form, after the subject, or text, of the movement has been announced in the scale of the tonic, the "answer," or the repetition of the theme, is made in that of the dominant.

The addition of a minor seventh to any major chord vastly increases the dominant, or ruling, power of the triad, and the "leading" (15, 24) tendency of its third.

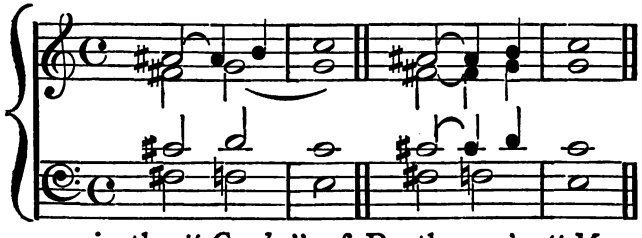
147. A change of key is, often, delightfully prepared by making some sound in a chord

very prominent, and then continuing it in a different capacity, or degree, in a changed harmony.

From Beethoven's "*Pastoral Symphony*."

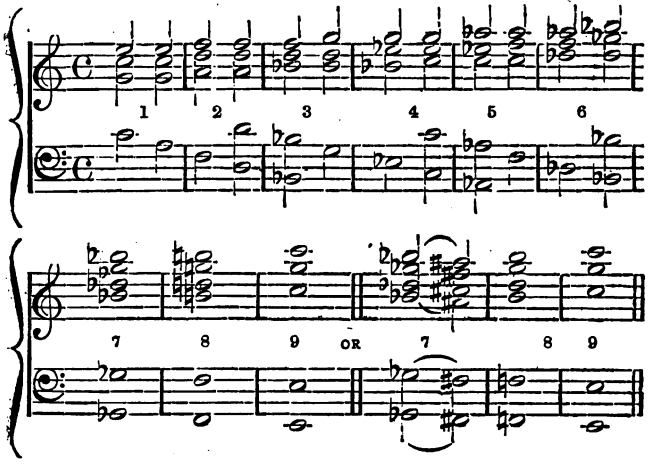


Very abrupt, and startling, modulations may be thus made:—



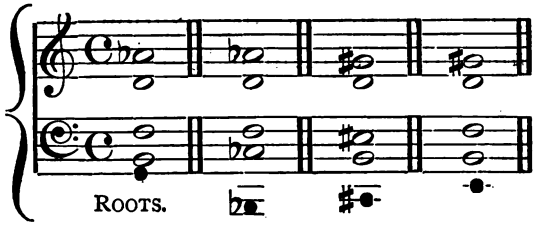
or, as in the "*Credo*" of Beethoven's "*Mass*

in C," where no suspension (74) is used; but a plunge into the most remote key possible is rendered tolerable only by the merely chromatic, and discordant, relation which a triad upon the augmented fourth of a scale has to the dominant.



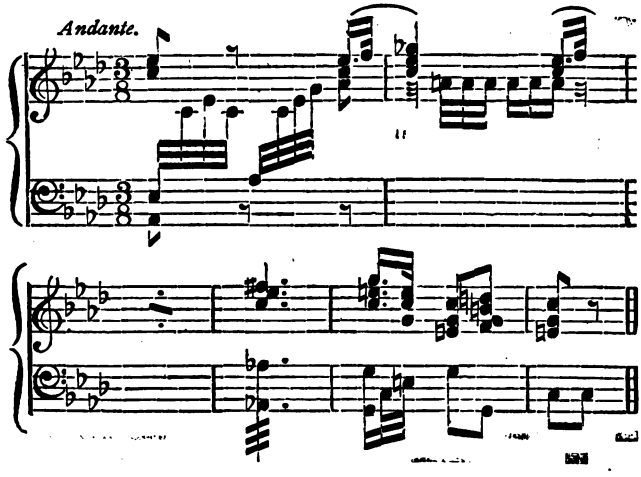
148. The enharmonic change—*i.e.*, the very slight sharpening, or flattening, of one sound in a chord—often opens the way to, and suggests, an entirely different family of keys. Thus (only to mention one combination which may be thus treated) there are four different chords, each containing a minor ninth from the root, and having the sounds so close together that, upon a keyed-instrument, they are identical; and yet so essentially dif-

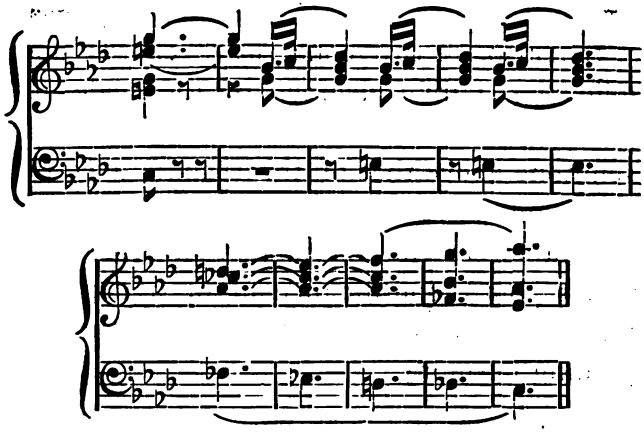
ferent as to lead, easily, into four entirely distinct families of keys.



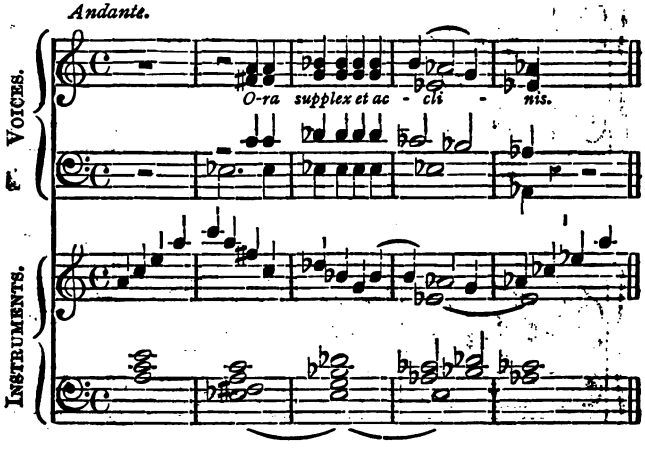
149. A combination of discords forming an augmented sixth (114, 125, 133) in any part of a scale in which a resolution upon some sound of the chord of the tonic, or one of its best consonances, cannot be easily effected is, although not necessarily involving a change of key, yet a very potent means of modulation.

From Beethoven's Symphony, in C Minor.





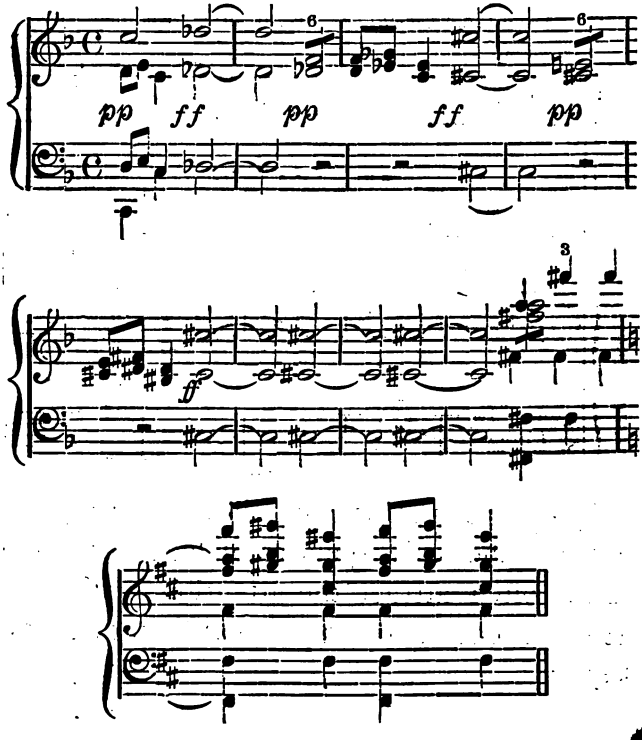
From the "*Confutatis,*" in Mozart's "Requiem."



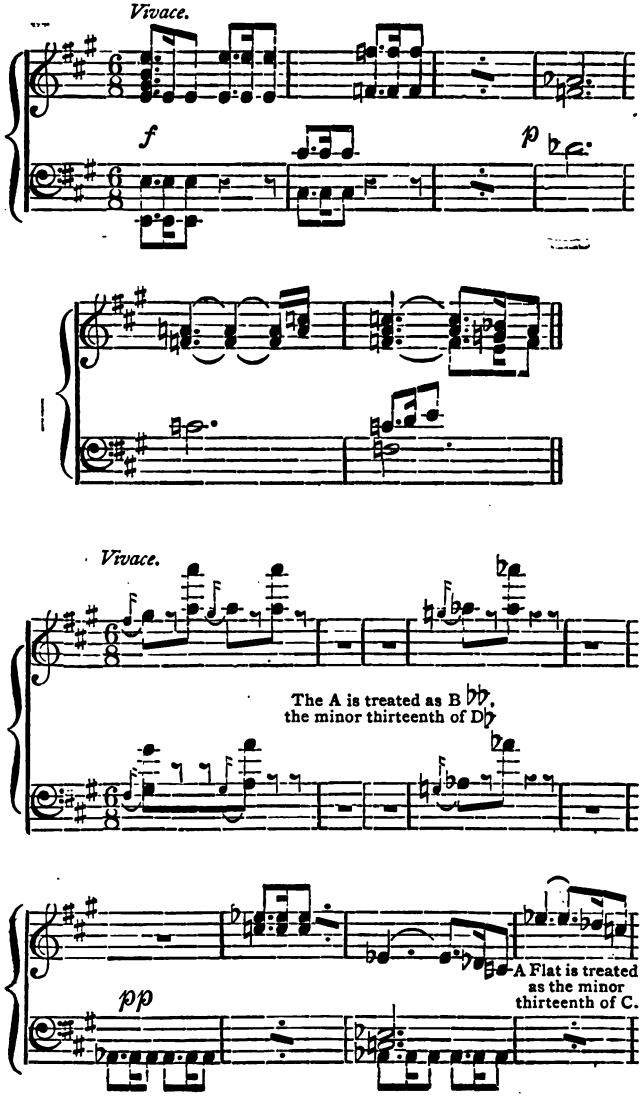
150. Two chords on following rising degrees of the scale, the second having a major third, often attract the attention of the ear as the subdominant, and dominant, of a new key.

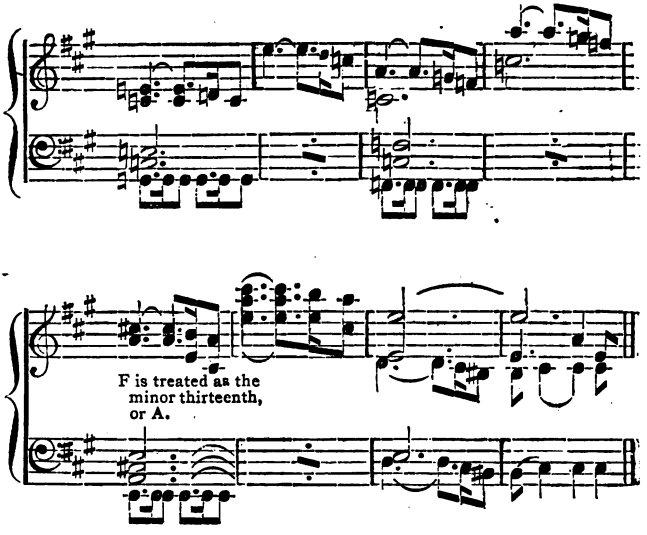
So, also, in two consecutive chords upon following falling degrees of the scale (especially if the root of the first be only a semitone above that of the second) a certain dominant power is imparted to the second. In neither case does a modulation necessarily result: but a continuance in, or a departure from, the key mainly depends upon the succeeding harmony.

From Beethoven's Symphony, in F, No. 8.



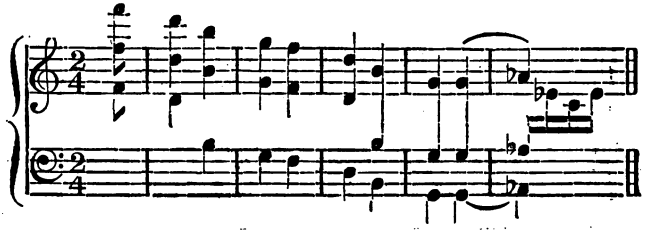
From Beethoven's Symphony in A, No. 7.

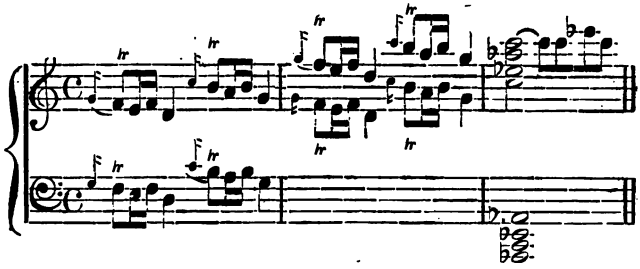




151. A mode of changing the key much favoured by modern writers is to make the tonic, or a sound upon which all the parts combine, a leading-note to the following chord.

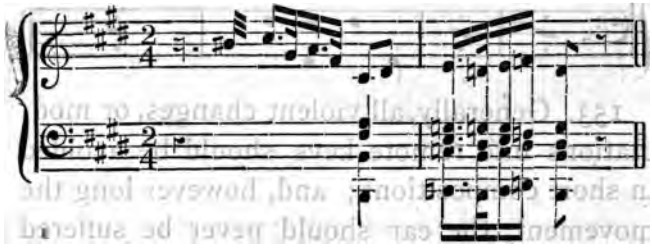
From Beethoven's P. F. Sonata, Op. 2, No. 3.



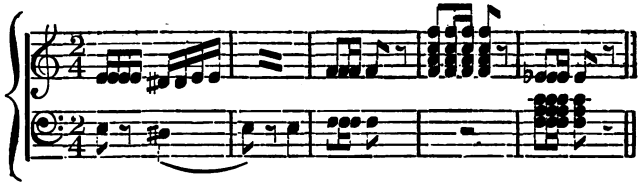


152. Of the same nature is a modulation effected by a "broken" or "interrupted" cadence.

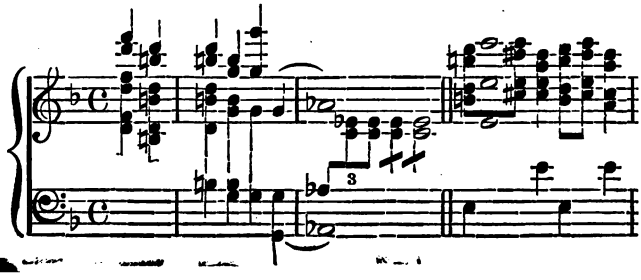
From Beethoven's P. F. Sonata, Op. 2, No. 3.

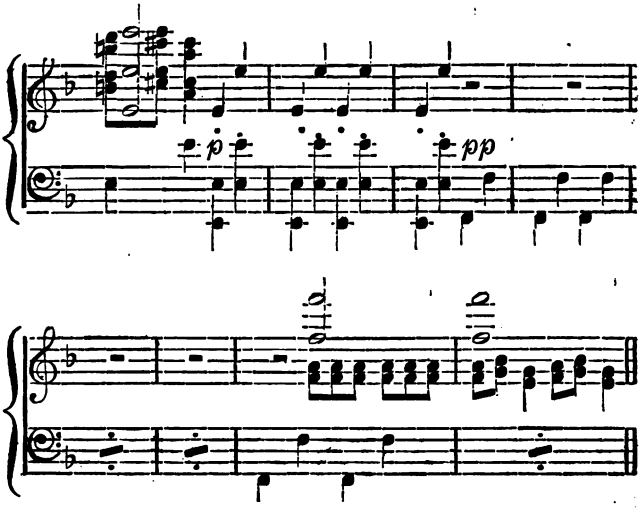


From Beethoven's Symphony, in A, No. 7.



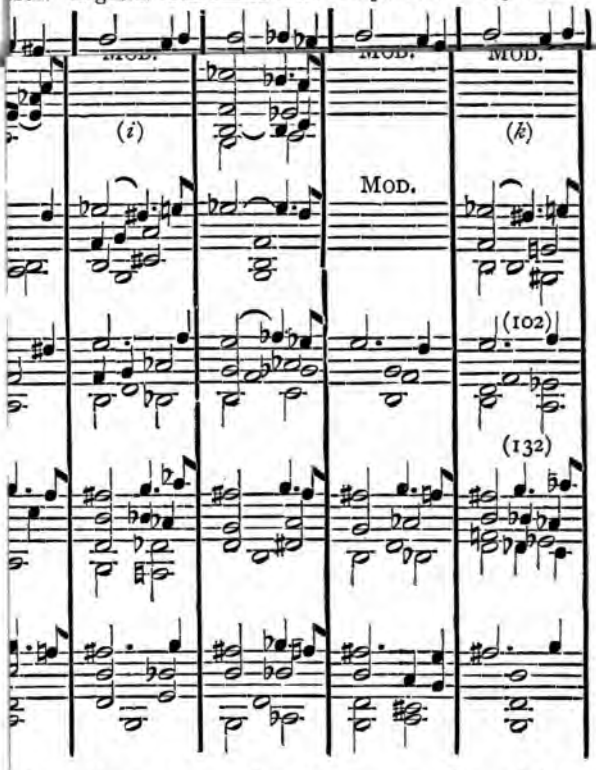
From Beethoven's Symphony, in F, No. 8.



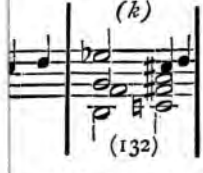


153. Generally, all violent changes, or modulations into remote keys, should be avoided in short compositions; and, however long the movement, the ear should never be suffered so entirely to lose its hold upon the principal tonic as to return to it without a feeling of satisfaction, and rest.

scale of the dominant of the key of C.



ther discord, at the distance of a third;
chromatic notes.



remaining: and all the harmonies afforded by the

perfect eleventh.

eenth to remain, or to rise: and the chords afforded

led amongst the resolutions of the minor seventh.

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